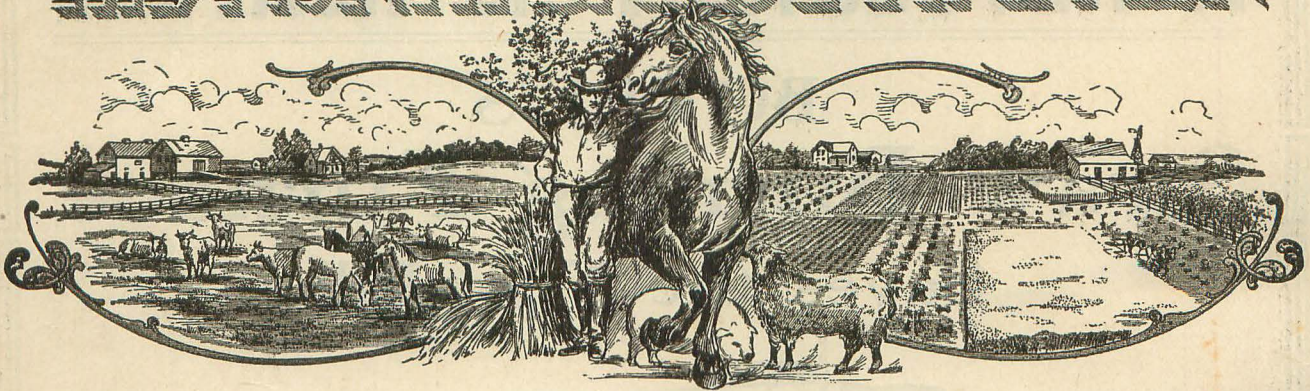


THE NORTH DAKOTA FARMER



"THE NORTH DAKOTA FARMER FOR NORTH DAKOTA FARMERS"

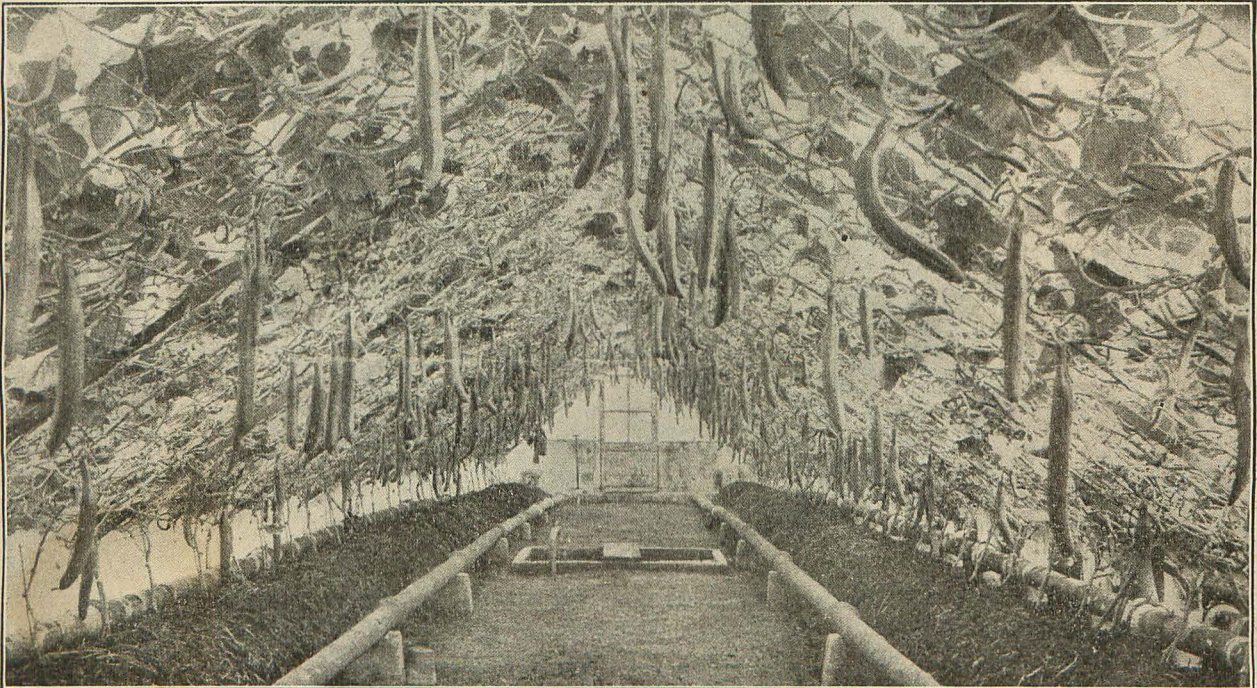
Alex Alin

511

Vol. 10, No. 1
LISBON, N. D.

JULY 15, 1908

50 Cents a Year
FARGO, N. D.



THE CULTURE OF CUCUMBERS IN BELGIUM

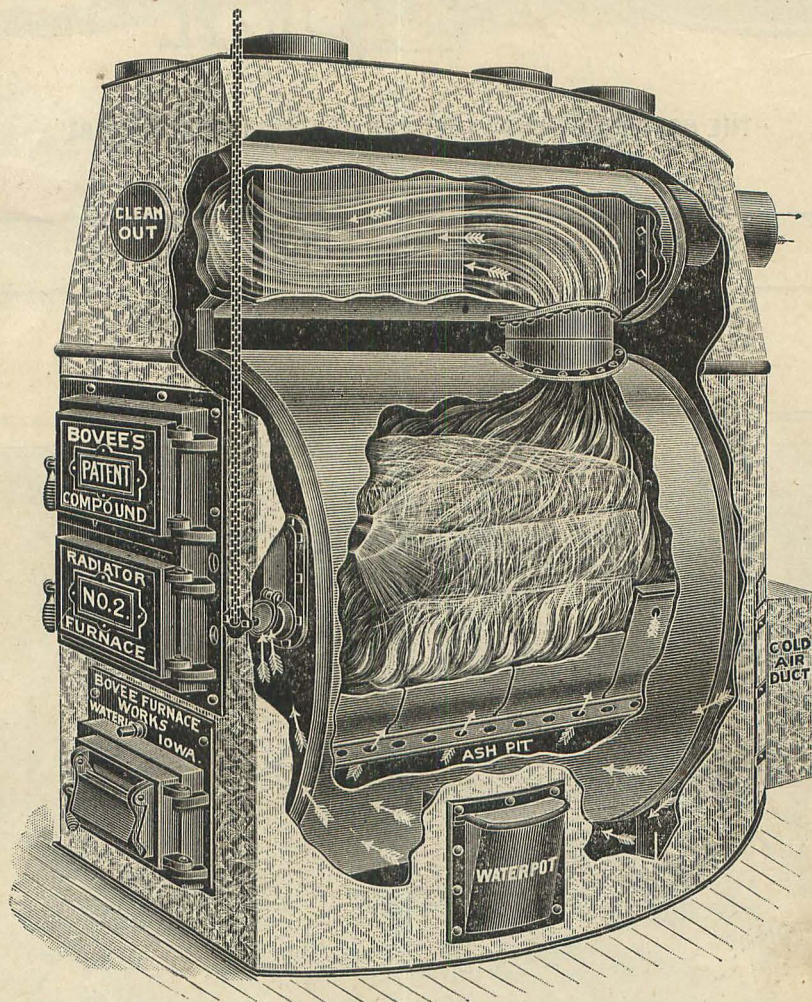
As Witnessed by President J. H. Worst

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THE NORTH DAKOTA FARMER

Vol. 10, No. 1

LISBON and FARGO, N. D., JULY 15, 1908

50 Cents a Year

MY EUROPEAN TRIP

By PRES. J. H. WORST, N. D. A. C.

A VISIT TO FLANDERS, BELGIUM

The labor question is quite as serious in northwestern Europe as in our own country, tho the rate of wages for common farm labor does not fluctuate as with us. Wages for common laborers are always low—averaging from less than \$3.50 to \$4.00 per week, without board. The rate of wages for farm labor varies but little in Holland, Belgium, France, or Germany.

We visited the Aremburg Ducal estates, a large farm located at Enghein, province of Flanders and rented by Mr. Henri De Vroede. The farm consists of about four hundred acres and it is among the very large farms of Belgium and Mr. DeVroede, the tenant, is an intelligent and progressive farmer.

Mr. DeVroede assured us that the density of population and consequent demand for land in that province had caused an advance in price of not less than \$100 per acre during the past year. As a consequence the farms are divided and subdivided until a five or ten acre farm is of respectable proportions for that country, and the rental demanded goes up as the size of the farms goes down; as a consequence it is almost impossible for a large farmer, partly owing to the difficulty of securing labor and partly owing to increasing rent rates, to make a living.

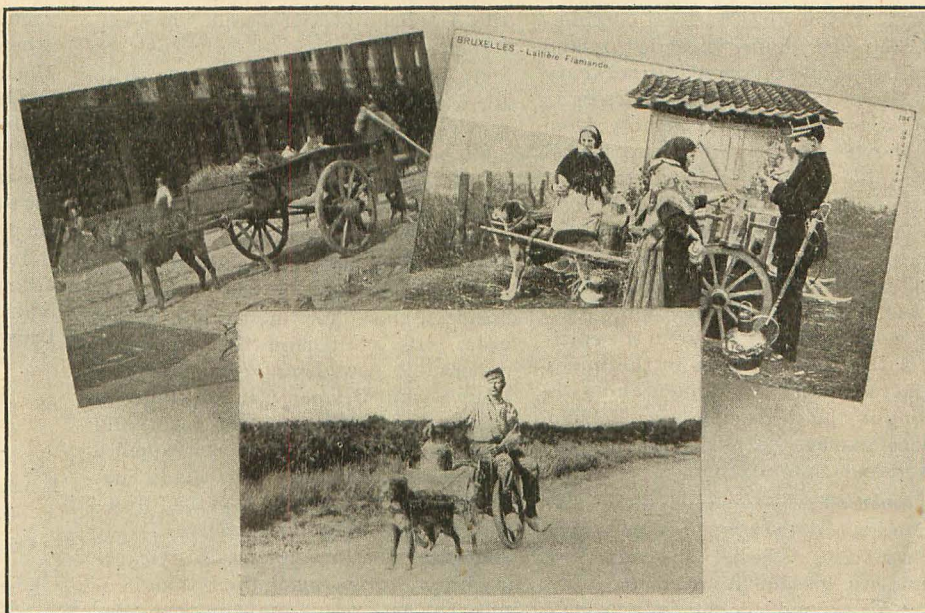
Belgium, as a matter of fact, is but little more than a country of numerous villages of from five to ten thousand population each, with the intervening areas devoted to gardening, or to farming on a garden basis. Each village is the seat of some local industry such as carpet weaving, cutting building and paving stone, making brick, weaving cotton, making linen, manufacturing watches, mining coal and iron, making locomotives and working in iron generally.

The men and boys are mostly em-

ployed in these local manufactories, which leaves the farm work, as a rule, to be performed by the women and the girls. It is no uncommon thing to see from a dozen to fifty women on a small area weeding and thinning sugar beets, mowing, raking or pitching hay or doing other sorts of farm work. And they seem to enjoy it. Bronzed and weather beaten, they are pictures of robust

the Agricultural College and Experiment Station at Huy I asked the director about the size of average families among Belgians. He replied that some families consisted of not more than eight or nine children, but more usually of from seventeen to nineteen children. The "race suicide" question evidently does not excite any discussion over there.

Mr. De Vroede assured us that under existing conditions in Belgium grain growing on the large farms was a losing proposition; that horse and cattle breeding were the large farmers' financial



The Use of Dogs in Transporting Milk in Belgium

health and physical strength. Doubtless the golden mean will come between their hard physical outdoor work and the utter lack of outdoor exercise of too many American women. Whenever complexion is rated above health and ease above motherhood, as is too much the case in this country, then the progeny of these stronger mothers will finally possess the land. And they should. When a race goes to seed another will take its place.

These Belgian women rear large families and toil early and late in the fields in addition to the performance of their household duties. While visiting

salvation. And here as in France, cattle are stabled quite generally the year round, the green clover, vetches or alfalfa being cut morning and evening in sufficient quantity for a single feed and carried to the stock.

Mr. De Vroede was engaged in breeding Belgian horses and mixed grain farming. He was one of the few farmers in that country using modern machinery such as mowers, hay tedders and binders, the size of the Duke's estate seeming to warrant the use of modern farm machinery.

The rotation followed on this farm is as follows: Clover; wheat (manure); flax (artificial fertilizer); barley (ma-

nure); rye; sugar beets (artificial fertilizer); oats, and then back to clover again.

In this seven year rotation the land is twice manured, twice treated with artificial fertilizer and given one cultivated crop.

The average yield for wheat was given as fifty bushels per acre; oats 100 bushels per acre; barley 80 and rye 50 bushels per acre. Clover and sugar beets produced crops worth from \$80 to \$90 per acre. Pasture land for dairy cows was declared more profitable than for grain, partly owing to scarcity of labor, but then the rotation of crops must be maintained even at a sacrifice.

Belgium has two agricultural colleges which are liberally supported by the government and many young men complete the courses of study and become experts in the various lines of manufacture or engage as institute lecturers, advisors to farmers or farm on their own account. A very large number of their A. C. graduates enter the government service as expert industrialists in some one of the many industrial lines the government is fostering.

In the vicinity of Charteroi considerable deep coal mining is carried on and the railroads make it comparatively easy for laborers to work in the mines or in manufactories somewhat remote from their homes, by giving them special labor trains at transportation rates that are almost without cost. Men in Belgium, as elsewhere, prefer to work in factories or mines rather than on farms, owing to somewhat better wages that are paid and shorter hours required for a day's work. And so, between the earnings of the men and boys in the mines and factories and the women and girls working in the fields, the large Belgian families manage to exist in apparent comfort and contentment.

It must be said to the credit of the Belgian farmers that they compel every acre to produce its best. The country is an immense garden, divided into very small plats around the villages, one garden plat for each family. These plats grow larger and larger with the distance one travels from one village toward another until the half way point between two villages is reached. These middle spaces are divided into fields varying from one rod to several rods in width and from twenty to sixty rods in length, each, in many instances, farmed by separate parties. The country roads run at all angles and the fields extending at right angle to the roads make a picturesque view for the traveler. Imagine a field of flax one rod by sixty in size, next a field of sugar beets two rods by sixty, next a field of wheat four rods by sixty, next a field of clover one rod by sixty, then a field of rye six rods by sixty and so on for several miles at a time and

the reader can form some idea of a Belgian landscape. These little fields with their various crops, each differing from the other in color, height of crop and stage of development make up a varied but interesting landscape. Moreover, as the roads crook and turn at frequent intervals it requires constant readjustment of the field angles as the roads zigzag about, which lends additional detail to the picture. The roads and streets in Europe were evidently all laid out before the points of the compass were considered of any value, except for navigators of ships.

The lands just described as well as the little garden patches surrounding the villages and cities are quite exclusively owned and rented out by capitalists—the smaller the field or plat the higher proportional rent is demanded. Fully nine-tenths of the land is in the hands of capitalists. These, however, are not so grasping for large wealth as one would suppose, for upon inquiry we found that the average capitalist is worth from \$100,000 to \$125,000—not much beyond the ambition of the average farmer here, and not at all comparable with the American idea of a millionaire capitalist.

These farms are rented for from fifteen to twenty years at a time, cash annual rent, and but few of them exceed ten acres in size. This includes free house rent but the house is rarely on the land. People quite generally live in villages.

While in Brussels I called on Mr. Geo. W. Sillcox, a native New Yorker who has been engaged in the machinery business there for more than thirty years. He assured me that there is a remarkable awakening in Belgium France and Germany in all lines of manufacture, especially of farm and dairy machinery and in consequence considerably less American made machinery would be imported in the future. He contends that with cheaper labor and better workmanship more servicable machinery can be made there than here and that as a result the American "invasion" will speedily come to an end. Plow works that were started in Belgium and Germany six years ago in a very small way have already assumed extensive proportions, and immense plants for the manufacture of cream separators, gasoline and steam engines, and other kinds of machinery also have grown up within half a dozen years. Mr. Sillcox is certain that Belgian and German workmen are superior to American workmen in that, tho not so rapid, their product is more durable; they are more honest in their work. To consider of this we may well take exceptions, but the fact remains that Belgium, Germany and France are making tremendous strides along hitherto unexploited manufacturing lines which is

seriously affecting their farm labor, as already hinted at. And what is more, those governments are lending substantial encouragement to the industrial movements now being organized.

The Belgian government is helpful to the working classes in many ways and the trusts cannot injure them. The system of taxation also is peculiar.

Dogs generally are required to work. Milk carts, vegetable carts, peddlers' wagons and grind organs are mostly drawn by dogs. A working dog is not taxed. The same is true of a working horse. A horse or a dog kept for pleasure, and about every other woman, especially in Brussels, leads a dog, are heavily taxed. One servant is moderately taxed. If in buttons, the tax is doubled and for more than one servant each additional one is taxed double the preceding one, and so on. Luxuries come high but necessities are cheap.

Women are taught to do housework. The government furnishes 100 sewing machines for as many schools where girls are taught to sew and design. One little girl ten years old designed a wedding trousseau for which the government paid a prize. A poor laboring man when he dies, is buried by the state and the family charged but \$1.

There is but little emigration. A few go to the Congo and a few come to the United States, but in the main the people are contented with their lot and prefer to remain in the neighborhood where they were born.

In some future number I shall give an account of horse breeding in Belgium and of their great horse shows held in Brussels.

THE MAN AND HIS WORK

I haven't much faith in the man who complains

Of the work he has chosen to do.

He's lazy, or else he's deficient in brain,

And—may be—a hypocrite, too.

He's likely to cheat, and he's likely to rob;

Away with the man who finds fault with his job!

But give me the man with the sun in his face,

And the shadows all dancing behind;
Who can meet his reverses with calmness and grace,

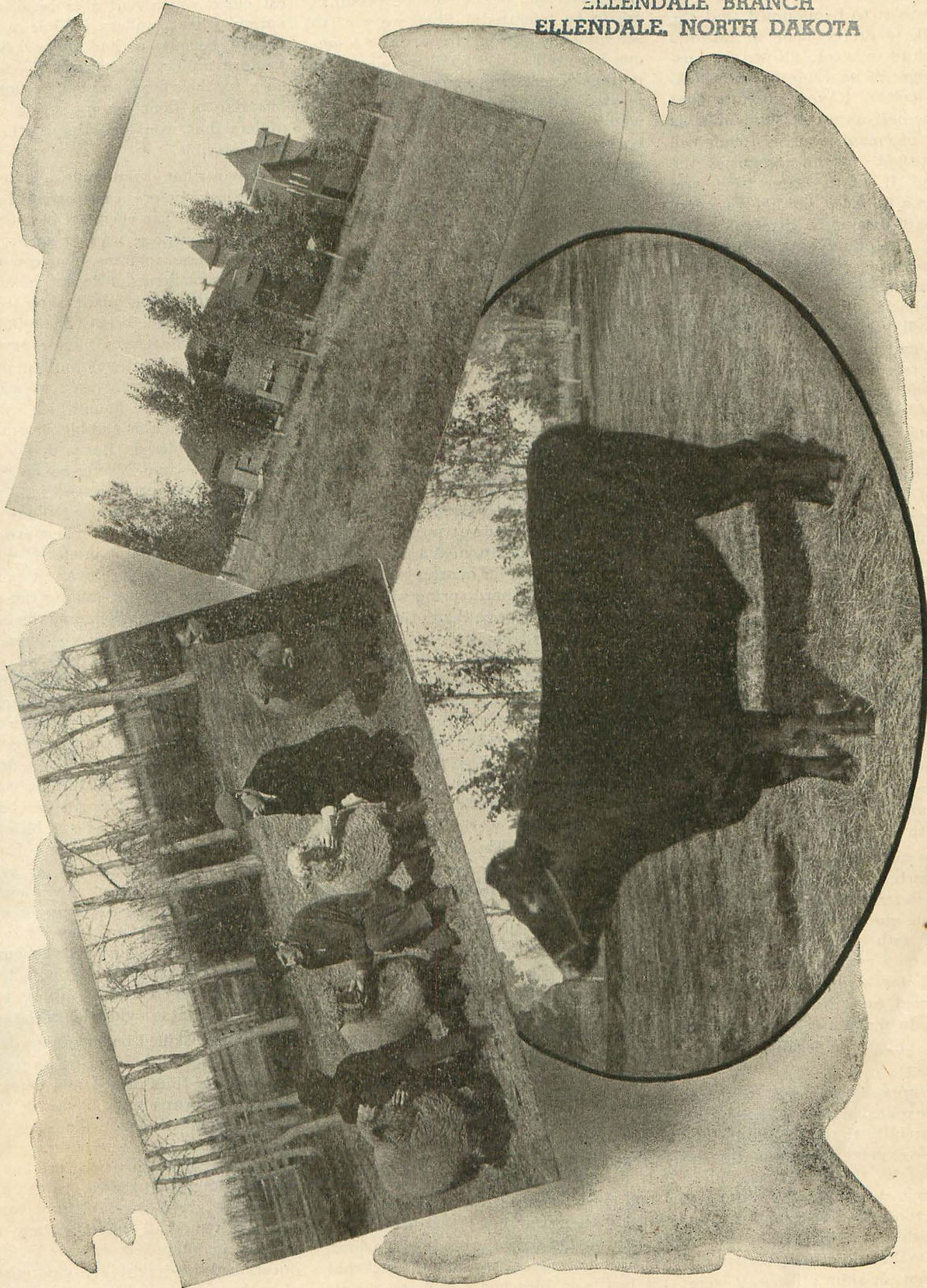
And never forget to be kind;

But whether he's wielding a scepter or swab,

I have faith in the man who's in love with his job.

—John L. Shroy in Lippincott's.

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Three Scenes at the Agricultural College

SHALL WE HAVE BLEACHED FLOUR?

(Concluded from June issue)

If you have milk from which you have removed the cream containing 25% of butterfat, it is to be assumed that the skim milk is pretty poor in fat and chalky white in color. Now, the customer judges of its value by the thickness and color. If you run into that cream one-half as much skim milk as you have of cream, your customer will be dissatisfied, for he recognizes the difference. If, at the same time, you can put in a thickener, say like viscogen, or sucrate of lime and a little color, you will have a product as thick as 25% cream and of as good color, you have made it resemble, or in imitation of the genuine article. Even tho it does not taste as well, you are not in a position to complain and must continue to suffer. You will recognize, however, that deception and fraud has been practiced when you learn what has been done,—that the milk-man has sold skim milk at cream prices.

So, when the miller takes out the best portion of the "middlings" flour, he is taking the cream from the wheat. What is left is like the skim milk. But, if by changing its color, he can add this skim milk flour to his patent and get you to take it at patent prices, he is that much ahead in his profits. You may kick and try some other brand but the chances are you will find the other fellow is doing just the same thing, for most of the millers are bleaching, many of them having been forced to put in the bleacher and practice the same fraud in order to compete with the other fellow, and this because the public were unable to detect the fraud and did not know what was the matter with the flour.

It is the same kind of old story, only in a new garb, of food fraud that we had years ago in strawberry jam, which was made from glucose and starch paste, sweetened with saccharin, or coal tar sugar, flavored with chemicals, colored with coal tar dyes, preserved with salicylic acid and a few millet seed thrown in to make more complete the deception. Shall we legalize it in its new guise?

Do you suppose a flour-mill is going to put in an expensive piece of apparatus, pay a big royalty to the promoters, and keep up the expense of running this apparatus just for the love of the thing? By bleaching, do they add anything of food value to the flour? They treat only the finished product ready to be sacked. Do they do otherwise than put a poorer flour, or skim milk, as it were, with the cream of the flour, and charge you cream prices? If this be true, then, why should they, the millers, and promoters of the bleaching process be allowed a graft of this kind to the injury of

the public, if not to the health of the rising generation? Who can tell what will be the effect upon the health of another generation if chemically treated, embalmed and degraded food products are to be tolerated? Shall we wait to see what the injury is to be, or, as someone has well said, "Shall we allow the present generation to go on eating adulterated and degraded food products and wait to see if the next generation are born with wooden faces?" Or, shall we insist that the food of the people shall remain uncontaminated and free from the addition of any unnecessary chemical?

Let me say that, unfortunately, some of the millers of North Dakota have been induced to pull the chestnuts out of the fire for the benefit of the Minneapolis millers and a few lawyers, who, undoubtedly, are reaping good fees. Many of these same millers now see their mistake but not all have the courage to admit it.

Flour produced from North Dakota spring wheat makes the highest grade product produced anywhere in this country and does not need to be bleached to be made attractive. There is no wheat that can yield a flour equaling it either in color or strength, and for that reason the hard spring wheat commands a better price than other wheats, since it is needed and used to give backbone to flours made from soft, weak, winter wheats. Patent flour from our North Dakota hard spring wheat is amply white for any purpose without bleaching, and is taken as a standard in judging of color. Why, then, should we encourage competition from inferior products by tolerating an evil like bleaching which works an injury and adds nothing? The interests of the North Dakota miller and that of the farmer, as well as the consumer, should be to see that the law, with regard to bleaching, is strictly enforced, for, under the enforcement of the Pure Food Law, North Dakota can build up for herself a great reputation as the producer of the best wheat and the best flour to be found anywhere in the United States, and we should take such steps as will foster and encourage the up-building of these industries and not aid outsiders in tearing them down. If there is present in the flour a harmful ingredient, then its use should not be permitted. If no deleterious ingredient is present and deception and fraud is being practiced, then the label should tell the truth; should show the grade of the flour, the kind of wheat used, and the fact that it has been bleached. Tell the people the truth, is all we ask, or have ever asked, of any business that would find a place in this state. The people have a right to that much protection.

Let us see what the millers have to

say. The President of the South Dakota Millers' Association, at their annual convention recently held, is reported as having "declared bleaching the greatest curse which had ever befallen the spring wheat millers. While a temporary benefit, it had helped Southwestern millers in securing the desired color for their flour, and had permitted a blending of flour among spring wheat millers that would not have otherwise been possible."

Here is what a gentleman, a miller and baker, said before a gathering of Indiana bakers: "The chemical bleach is for one single purpose. As the agent of the Alsop process told me, you can make more patent flour. I do not mean that it would make the quality any better. When you get the best of the middlings out of the wheat, you have everything that the word "patent" implies, and it (bleaching) is mostly used to make a quantity of patent flour which will not expand as much as the higher grades."

Again, Professor Barnard, speaking before the same Master-bakers, said:

At the present time most millers are bleaching flour, a practice unknown until recently, and many millers are mixing flours of different grades of wheat.

Color is an important characteristic in determining the commercial value of the flour, and the baker, in choosing flour, is largely influenced by its appearance in making his selection. The bleaching of flour takes away in a great measure the ability of the baker to judge of the character of the flour he is purchasing.

Over-bleaching, without a doubt, weakens the dough and diminishes the number of loaves of bread per barrel.

The miller, who is bleaching is, however, able to combine Kansas spring wheat flours and, so far as appearance goes, put it upon the market as a product of the Minneapolis mills.

There is no question in my mind but what the baker who buys a bleached flour, unaware of the fact that it has been so treated, is subject to an imposition that is a violation of the law."

Now, if a skilled baker cannot detect the difference in the flour by its appearance and is thus misled and deceived, how can we expect the housewife to be able to know that the flour has been bleached, and lower and cheaper grades added to the superior product. I might quote from scores of authorities who have given careful study to this problem, and all have either condemned it outspokenly, or have seriously questioned the desirability of permitting of such a process without giving information to the public. On the other hand, we find much written coming from the promoters of the bleaching process, from the dishonest miller, who desires to continue his graft, or from

chemists, often educated at the expense of the state and of the people, who are willing to sell their services in defense of a process which they know to be wrong, or, as one chemist who, in the past has condemned the bleaching of flour, stated that for \$500 I could retain his services, and he would prefer to be upon my side of the case, but if I did not choose to accept his assistance at this fixed stipend, if given an opportunity, he would take the other side, for he considered that it was for the chemist as legitimate to do this as it was for the lawyer to take either side of the case, as might be offered to him; that his services were that of an expert to assist. In other words, he is not an honest expert, but one of the professional kind who is willing to give his services to the highest bidder, and the public are not always in position to distinguish between the two classes of experts, the one a disinterested, honest man, the other a professional parasite using his God-given ability to protect the law-breaker.

The following is from a letter recently received from one of the largest merchant-millers from another state, and shows his views as an honest miller. He says:

"We believe that the practice of dyeing flours has got to be limited or cease, and trust, firstly, that your Court proceedings will lead your way, and then that the Government will come to the rescue of the millers in general. They are all tired of it and went into it reluctantly, (they claim, one had to follow the other) and we believe all will be glad to see it over."

In the Courts I may be defeated on technicalities, but the public are awakened and know where to find relief if they but demand it. When I look about me I see the vast profit that comes to the food adulterator.

"One can scarcely wonder at the persistence of those selfishly interested in the preparation of food products in the cheapest possible way that will make them look well to the consumer. It is a matter of business with them. They are not bothering about the health of their patrons. That is the lookout of the patrons. They want to produce their goods at the lowest possible rate that they may either undersell competitors or have a big profit. But what puzzles the observer is that in many instances the consumer actually champions the cause of the manufacturer whose products are destroying stomachs by the score. Only the unscrupulous manufacturer acts in this way, the amazing thing about the whole business is that he receives the moral support of many citizens who ought to be standing by the authorities."

HOW TO PREPARE SHEAF GRAIN AND GRASS SAMPLES FOR EXHIBITION

The importance of an early selection of small grains for the sheaf display at the National Corn Exposition to be held at Omaha, December 9 to 19, 1908, should not be overlooked by the intending exhibitors. The greatest care should be observed in making these selections; only the very choice straws carrying fully developed heads. Cut these off close to the ground with a sharp knife. When large bundles have been secured sort them over for uniform typical, heads and uniform length and perfectness of straw.

The process of curing is the next feature of the work. Spread the selected samples out on the grass to bleach and cure in the sunshine, being careful to keep them guarded from all moisture, rain or dew, until they are well cured, which may require from one to three days, depending upon the weather and the ripeness of the straw when cut. As soon as they are in a satisfactory condition of outdoor treatment strip the blades off carefully, so as not to bruise or break the straw.

The reserve samples may now be collected into small bundles, not to exceed one to two inches in diameter, tie them with muslin or other soft string and hang up in a light dry room, heads down, and let them hang until perfectly cured. These smaller bundles are usually consolidated into larger bundles or

sheaves of approximately four inches in diameter and tied with ribbon; one band just below the heads, one at the center of the sheaf and one four to six inches from the butt of sheaf.

These sheaves may be loosely wrapped with cheese cloth. Some of the best expert exhibitors let the small bundles hang from the ceiling until ready to exhibit, then put them into larger sheaves, believing that the hanging position is the safest and best for retaining the shape of head and making a bright, attractive exhibit. All samples for exhibition should be kept free from dust and away from mice and the house fly, as all these are damaging to exhibition quality.

In grasses the reverse condition applies in their preparation for show. All samples when gathered should be cured in a dry, dark place, and be excluded from the light and air by wrapping and storing where they will retain their natural green and fresh appearance.

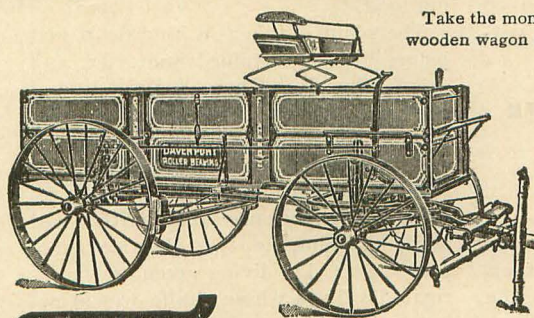
DURUM FLOUR

If every man, woman and child in the Dakotas would eat durum bread, says Chas. Christadon, and no other, the durum situation would change greatly. A public demand for durum flour and bread is all that is needed.

And now here is the very latest—Mr. Schinkel's preliminary report on durum bread. Kansas, when she began to grow her banner wheat, Turkey Red, caught a

"Do not fail to see the Exhibit of the famous Davenport roller-bearing, all-steel wagon at the Fargo, North Dakota Fair, July 20-25; the Hamline, Minnesota Fair, August 31-September 5 and the Huron, South Dakota Fair, September 7-11. This exhibit will be found with that of Deere & Webber Co. They will be glad to explain its construction and many points of advantage.

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Take the money you'd pay for a good, old style wooden wagon and put it into this "steel wagon of the steel age" and get

**Double the Life
No Breakdowns
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It is simply a matter of economy. The only wagon you can afford to buy is the

Davenport Roller-Bearing Steel Wagon

because first cost is the only cost. It is practically all steel, no wooden parts to dry apart and rot, no rattling spokes, no resetting tires. Its steel wheels are trusses. Steel gears are built like a bridge. Spindles are straight, not tapering. Has roller-bearings which make it run a third to a half lighter. Bearings are dust, sand and water-proof.

SEND FOR FREE BOOK

to tell you all about it. Don't buy any wagon till you get it. Remember the Roller-bearing Steel Davenport costs no more than a good wooden wagon. Send for Catalog R now while it's on your mind.

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cyclone of knocks, and every knock being a boost; Turkey Red prospered and made Kansas an automobile-ridden-farming state.

The knocking Turkey Red got was its fortune. So when I heard Mr Schinkel was experimenting with durum bread, I very flatly came out to the parties who suggested the experiment and said I hoped Mr. Schinkel would knock durum bread to a standstill and call it every bad name the millers, bakers and elevator men had forgotten or neglected to call it. I felt that a good mustard and red pepper knocking administered durum, at Mr. Schinkel's hand, would boost it sky high, much more so than any real nice things he might say about it. But listen. I quote from a preliminary report of Mr. Schinkel, who has worked durum and Minnesota spring patent side by side. Here is what he says:

"Durum flour yielded 7 $\frac{3}{4}$ per cent (say 14 pounds) more per barrel in dough clearly showing a higher water absorption in durum flour. Durum fermented and expanded equally with Minnesota patent, but expanded less in the oven. The grain of durum was equal in every respect, but creamy in color. (Durum patent can be bleached if this creamy color is a detriment.) The color was a rich, creamy color, and very pleasing to the eye. On the whole, the durum loaf presented a far better appearance than the Minnesota patent. It was crusty, rich and brown, a compact, solid loaf. Sugar—you cut sugar out of your doughs when you use durum flour. It is particularly rich in sugar, makes a fine caramel, and that is why the crust is so golden.

In taste and keeping qualities it equaled the Minnesota patent; in fact, was moist at the end of four days, when the Minnesota loaf was dried out. And everybody praised its excellent taste. The blends with Minnesota were just as satisfactory as to expansion, crust, etc.

And Minnesota patent is 40 to 50 cents dearer per barrel than durum patent.

HOLDING SCREENINGS ON THE FARM

Prof. Thos. Shaw

When farmers who grow and sell grain in the northwestern states are asked why they don't keep their screenings at home for feeding on the farm, their answer is ready. They say, first, that it will not pay them to reclean their grain; and second, that they will be docked all the same, anyway. These excuses are not tenable, as will now be shown.

It is a fact that the thresher can so arrange that the screenings will fall below the machine on the ground. In this way nearly all the screenings could

be thus saved by the farmer. He will, of course, have to sack them. The thresher does not encourage such a course, as, unless some arrangement is made between the thresher and the owner of the grain, the former would get no compensation for threshing the screenings, which he does as things are now. He ought to get a reasonable compensation.

But why cannot machines be made that will sack the screenings instead of allowing them to fall on the ground? This should be easily possible. The farmer would not then have to sack the screenings, and the thresher would be paid for cleaning them.

The plea that farmers will be discounted all the same whether grain is cleaned or uncleaned is hardly tenable. The dockage is made according to certain rules. This means that dockage is not according to the caprice of the buyer at the elevator. If there is much of weed seeds there will be proportionate dockage. If there is but little of weed seeds there will be little of dockage. If there are no weed seeds present, will there be any dockage? Because there is some dockage, is it not a fact that in such instances, there is some dross in the grain?

THE CULTURE OF ALFALFA FOR HUMAN FOOD

It has come at last. Alfalfa is now offered on the market in the form of a breakfast food and it is said to possess many advantages over the varieties found for sale in the groceries. A Colorado genius discovered the process by which this wonderful plant can be made fit for human consumption and the product is said to contain ingredients which render it peculiarly fit for delicate stomachs as well as for persons in robust health who require stimulating food.

The plant is taken in its growth just before it has attained maturity and dried thoroly. Then it is ground perfectly fine and treated by a secret process whereby the essential elements are extracted so that they can be utilized for the purposes desired. This recalls an experience the writer had while traveling in New Mexico three years ago. The living green of the irrigated valleys where alfalfa was growing was surely enough to excite the enthusiasm of any one, but my remarks contained evidence of unusual appreciation insomuch that a bunch, crisp and fresh, was served before me in the dining car, arranged in a cut glass dish with ice and trimmings. A delicious salad was made of it and it was enjoyed thoroly in the eating. No bad results followed, on the contrary,

the effects were pleasing and it was apparently nourishing and easily digested. The prediction was then made that the future would produce a method whereby this most wonderful plant would be made into food for the human race and prove in that way its yet wider adaptability. Every man takes some pride in seeing his predictions fulfilled.

LOCAL SLAUGHTER HOUSES

Why We Need Them

At the time I first became interested in meat-producing animals, the farmer raised most of his young stock, if the family wished any meat, a lamb, pig or steer was killed and part of it taken to the local market and there sold, and the people of that locality had the privilege of getting as good meat as the farmer. The money received by the farmer was used to pay some of his bills in the town at that date. Those who had a large number of steers took them to the city. If one had more meat than he wished for his family, he took it to the village or sent it to the city and all went well. The skins were taken to the local tannery and made into leather, and the leather taken home or to the village and made into mittens, shoes, boots or a harness, and the fur and wool saved and made into clothing, and during the winter the farmer and his sons went to the woods to split a few rails and cut their wood for the year, and at the same time to get into shape to pay the taxes and bills at the village.

What are the conditions of the farmer at present? There are practically no woods to work or hunt in, and the boys have gone to the city to work in the winter and the farmer goes to town for his coal to keep his family warm. Now let us see what a fine time he has to get some money to pay for his coal or his taxes—and they say that taxes are as sure as death.

The farmer who is proud of his state and nation and home enterprise gets up in the morning and goes down to the local market to sell some steers to get a little money to pay his taxes and bills in town; and now let us see what a fine time he has. He goes to the local market and says he has some steers for sale, and the reply is: "We have all we wish at present." Sure enough, there is meat on all sides—hams, sausage and canned meats, and each is marked "U. S. Inspected and Passed," and a number to show where it came from; and the chances are that it came from St. Louis, Kansas City or Chicago. Then the farmer asks: "When can you take my steers?" He is told: "We have all we can use for a month bought, but if you will go up to the hotel and

see John he may ship them for you." So the farmer starts for the hotel; on the street he meets the groceryman, and he says to him: "I will pay you just as soon as I sell my stock." He goes on to the corner, when he meets the coal dealer and says the same to him as they walk up the street. When they come to the hotel the thought strikes the farmer that his credit must be good or they would have made some remark.

He finds that John has gone to the city to see about some stock that he had shipped the week before, but was expected on the next train; so he goes to the station, and while he is waiting sees a few quarters of meat and a few sheep and a box of meat thrown on the platform, and they say it is for the market, and it is hard to tell where the sacks came from that it is partly wrapped up in, and the farmer wonders if it is some of the stock he saw in the West. John on arriving says that stock is a little off, but he will come out and see the farmer next week. The latter then starts for home, and on his way meets the coal dealer going to his dinner.

That evening the coal dealer goes down to the barber shop, and in the chair is the lawyer, and there sits the farmer's hired man telling the barber what fine stock the farmer has; and the barber tells what a high price the butcher asks for meat, and says that the farmer must be getting rich. At about this time in comes the grocer and asks the coal dealer if he has his pay from the farmer. "No," says the coal dealer, "but I saw that fellow up at the hotel all the forenoon." At about this time the lawyer comes from the chair and the coal dealer asks him what is the best thing to do. "Come up to my office," says he, "and I will fix it up."

In a few days the stock is sold—that is, John sends it to the city. But the train is late for Thursday's market, so it has to be held over for Monday, and by this time the stock has shrunk considerably. Hearing that the stock was not sold on Thursday, the farmer goes to town on Monday to see about it, as it is about all he has. On arriving at the yards, he finds they have all been sold to the packer. In a few days John gets a bill and a check, which is the small residuum after freight, yardage, grain, hay, commission, etc., have been deducted. John takes his share and pays the attorney, who takes his part, and then pays the grocer and coal dealer, and the farmer gets what there is left to pay his hired man and taxes.

Now let us see what became of the stock. The best of it went for export and the next best for sausage and to the local markets, and those that sold for about what their hides were worth

were sent out to the local markets and some canned, and the by-products, such as scraps, blood, bones and the contents of the intestines were dried and sent back to the farmer at the rate of from \$40 to \$50 a ton.

The writer has come to the following conclusion: Local slaughter and packing-houses would be of much value to the farmers and the people of the state. If they were so located that the farmer could drive or take his stock to them and take home such meat or by-products as he wishes, and if the laborers in these packing-houses were those men living in the locality, and the railroads and express companies were compelled to give local houses the same rates the large ones get, and with the present cold-storage system, it is my opinion that the cities will look to the local packing-houses for their meat. In other words, our meats would go from the producer directly to the consumer.

The present system of handling animals and meat seems to influence the people to leave the farms and go to the city. This increases the size of the farms and reduces the number of animals and the productiveness of the soil. I believe that the boys should be encouraged to stay on the farm and keep more stock, and thereby improve the productivity of the soil; and if our local slaughter-houses were protected by law, and with the assistance of the State Department of Agriculture, the State Experiment Station, etc., much could be done to increase the wealth and prosperity of our state.—In Country Gentlemen.

CORN ROOTS

A. M. Soule, Virginia Station

Agronomists generally have devoted much of their investigations to the study of that part of the plant found above ground, but they should go farther, for upon the growth of the root or underground structure depends the development of the plant.

In support of this view, the following reasons are advanced:

1. Plants feed chiefly by their roots.
2. The acids exuded by plants aid in the breaking down of mineral matter.
3. On the development of the root depends largely (a) The ultimate development of the plant; (b) its power to resist drought.
4. It is the only means the plant has of maintaining its position.

Evidently, then, the growth of the root systems of farm crops is a question of importance to the agriculturist, in order:

1. That every available means to foster their growth and uniform spreading in the soil may be employed.

2. That he may properly prepare the soil before planting.

3. That he may study the effect of various crops on the soil.

Corn planted in an open, porous soil will be found on examination to occupy the soil to a depth of four or more feet, laterally as well as perpendicularly. Furthermore, every inch of the soil in this comparatively vast area will be found occupied by the roots of a single plant, and King has shown that the aggregate roots of a corn plant may attain the astonishing length of 1.1 miles.

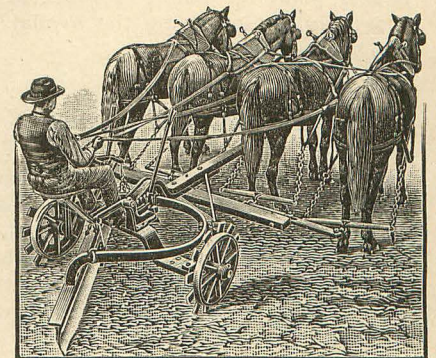
The soil best adapted to corn culture must be:

1. Deep and porous, in order that air and moisture may freely enter and carry on the work of nitrification.

2. Well drained, so that the roots may penetrate freely in all directions.

3. Of a friable character, typified in sandy or clay loams moderately rich in

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humus. Humus increases the water-holding capacity of the soil. Of course corn will grow in clays when once well established, but the cracking of these soils during dry weather breaks the root-hairs, and, being so impervious, the soils do not admit of a deep-seated and vigorous root growth.

It is evident that the soil should be stirred as much as possible for corn. Shallow plowing is the curse of half the farming community.

GRASS A SOIL BUILDER

Grass is a soil protector, a soil renewer and a soil builder. Covering the land with grass, says Coleman's Rural World, is nature's way of restoring to old, worn out soils the fertility and good tilth characteristic of virgin soil. The true grasses do not add nitrogen to the soil, as do clover and alfalfa, yet they are in a sense nitrogen gatherers in that nitrogen of the soil is collected and stored up in the roots of the grass in the form of humus. Thus grasses prevent the waste of nitrogen and other plant food elements and serve to protect the soil and to maintain its fertility. By extensive and deep penetrating root systems many grasses also tend to break up and deepen the soil, gathering and storing plant food in their roots, and thus actually increasing the available plant food of the soil.

ALFALFA PALACE IS PLANNED

While "corn is king" alfalfa is undoubtedly "queen" in the western states and to his queen, King Corn is to build a palace in Omaha which will be one of the special features of the National Corn Exposition to be held there December 9 to 19.

The "Alfalfa Palace" is being planned by the directors of the corn show because of the increasing interest in the crop and its growing importance as a food for cattle. The palace is to be built of bales of alfalfa and lined with exhibits of alfalfa and other grasses. Valuable premiums are to be offered for the best types of the alfalfa plant, and many growers will secure hay presses and modern machines for baling the alfalfa.

Much attention is to be given alfalfa at the National Corn Exposition as it is now recognized that it is a necessary food for stock. The best authorities have demonstrated that cattle cannot use to advantage all the carbo-hydrates and oil in corn without a protein ration. It is a waste to feed straight corn to stock in preparing them for market and the big packing houses are now paying better prices for the stock fattened on a mixture of corn and alfalfa.

Then the mixture is cheaper. Few feeders are still of the opinion that they can afford to feed straight corn worth 60 to 65 cents per bushel to cattle for which they receive from \$6.50 to \$8 at the outside. For this reason those interested in agriculture are to secure exhibits and give demonstrations of interest to every grower or feeder of alfalfa, when the big palace is opened at Omaha in December.

ALFALFA FED CATTLE WANTED

When a train load of cattle sold in Omaha last week for \$20,000, being exactly \$8 per hundred pounds for every steer on board, the buyers for the South Omaha packing houses said, "They were among the finest ever brought to this market and were fattened on a mixture of corn and alfalfa."

The great packers have recognized that the alfalfa fed cattle are of superior quality and are doing all that they can to encourage feeders to mix the great proteid food with corn in such proportions as will enable the stock to utilize all the carbo-hydrates and oil in the corn. These they cannot use without waste unless a protein ration is given as a neutralizer.

HUMUS HOLDS WATER

In discussing the value of humus in the soil The Farmers' Review says:

Decayed and decaying matter in the

soil greatly increases the power of the soil to hold water. This is a fact of such large consequence that our agricultural scientists are paying more and more attention to it. One of the professors at Cornell University undertook to prove the great value of humus as to it's power to retain the water. He took two samples of soil from places about twenty feet apart. Everything about the location suggested that the two samples should show the same water content. But in one of the locations three successive crops of crimson clover had been turned under. The sample of soil from the place where no clover had been turned under analyzed 8.75 per cent moisture; 1.91 per cent humus and .12 nitrogen. The sample from the soil where the crimson clover had been turned under analyzed 15 per cent moisture; 2.94 per cent humus, and .21 nitrogen. This was a gain of 6.25 in moisture content; 1.03 humus content and .09 nitrogen content. There are very few people that stop to consider what this means on an acre of land. Taking the soil to a depth of six inches it means that this 6.25 per cent increased moisture would equal 93,750 pounds or forty-six and seven-eighths tons of water. This amount of additional water would mean a great deal in a dry season. The turning under of an occasional crop of some green stuff means much, if it does nothing else than hold up the water content of the soil. It would take a great deal of sprinkling from a hose to put on 46



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tons of water. Many of the soils that are now unproductive would be productive if they had enough water to carry them over the dry spell of summer. But by bad farming methods the humus has been exhausted and this has reduced the capacity of the soil for carrying crops thru the dry season. The crops start well in the spring and seem to be doing nicely till the summer dry spell begins, when they at once droop as if some insect were assailing them. The trouble really is that the moisture supply was so light that it was soon exhausted and the soil could not supply more. This loss of water holding capacity has really been at the bottom of numerous crop failures in different localities. The humus supply of the soil can be kept up by growing deep rooting crops and by fertilizing them so heavily that they will develop great masses of roots. The plowing under of crops grown for the purpose, of course adds much humus to the soil, but most farmers do not like to lose the use of the land for even a season. This may be avoided by growing some leguminous crop in the cornfield late in the season and turning under the soil late in the fall or early in the spring. Rotations of crops help to keep up the humus supply, if there is a grass sod to turn under occasionally.

THE QUESTION OF HUMUS

It is commonly supposed that the fertility of soils is largely determined by the organic matter they contain, especially in the form of black humus. Indeed, so generally is this idea held that the expression "rich black soil" is very generally used. While it is unquestionably true that most soils which are fertile are well supplied with organic matter, and even that those which are very fertile are usually quite black in color, there are a large number of exceptions to the statement that the fertility and amount of organic matter go hand in hand. One of the most striking illustrations of this is the lack of fertility shown by many of our marsh soils. In some cases they need potash fertilizers, in others they need phosphates to make them productive.

On the other hand, we frequently find soils that contain a relatively small amount of organic matter, at least in the form of black humus, and yet show a considerable degree of fertility.

The influence of green vegetable matter turned under on the fertility of soils is well known, and in extent is very important. The practice of turning under green manuring crops is followed to a considerable extent, but by no means so widely as it should

be. The opinion, however, seems to be quite general that the effect of this green manuring is, to a considerable extent, at least, due to its action on the soil grains, producing changes in them which make them available to crops. This idea, however, we do not believe to be sufficiently well grounded in actual observation and fact. In most cases, by far the greater action of these green manuring crops is the result, in all probability, of the return thru decomposition, of their contents to the soil in an available form for the crop following.

The influence of barnyard manure is too well known to need comment except to call attention to the fact that the decomposition of the manure is not generally followed by accumulation of the organic matter in the form of humus, altho this is frequently stated to be the case. On the contrary it has been repeatedly noted, especially by growers of tobacco, that soils on which this crop is grown and to which large amounts of manure are applied each year, very commonly continue to decrease in humus. It is evident that the manure has all been decomposed and that therefore its content of the various elements has been liberated.—Bul. 139, Wis. Sta.

WHEN FERTILIZERS APPEAR TO FAIL

By Cyril G. Hopkins, University of Illinois

We can get illustrations to prove or disprove almost anything relating to agricultural practice. Not infrequently an application of farm manure produces an injurious effect on the first crop, and half the farmers of Illinois will insist that it is a better practice to burn corn stalks than to cut them up and plow them under; and this is true if we are thinking only of the first succeeding crops, altho, if we take into account the later crop yields, the man who persistently plans to plow under his stalks and burns them only in emergencies, will come out far ahead of the man who regularly practices the burning of corn stalks.

Even a heavy growth of clover plowed under late in a dry spring will damage a corn crop that year, but the wise farmer looks ahead and adopts a system of farming under which it is possible for his land to become more productive.

I call to mind one instance where a farmer applied rock phosphate to timothy and clover sod and plowed it under, and it produced an increase the following year of seven bushels of corn per acre. The next year he grew another crop of corn on this same

land and the part which had been treated with phosphate produced practically the same yield as the untreated land. As a matter of fact, an increase was produced when the phosphate had been "plowed down," but the next year his phosphate had been "plowed up," so that the larger part of it was probably near the surface of the ground, and, consequently, could not be expected to produce any effect upon the growing corn, the roots of which do not feed appreciably in the first two or three inches of soil.

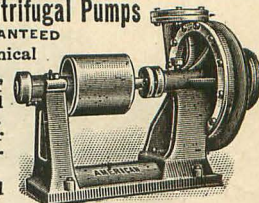
A farmer in Douglas county recently reported to me that he had used bone meal and it produced no effect upon his corn crop. Upon inquiry I found that he had applied the bone meal after plowing for corn, which means, of course, that it remained in the first two or three inches of surface soil and could not possibly have benefited the corn crop.

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WONDERFUL NEW WHEAT AS DESCRIBED BY THE FARMER'S TRIBUNE

O. K. Hobe and his father-in-law, A. Adams, an Idaho farmer, have been keeping quiet since 1904, until there should be no chance of a failure. Now they have proof of what they claim, and it is substantiated by the article itself, the most wonderful wheat ever heard of, which Mr. Adams has named "Alaska" because of its hardness and its thrift.

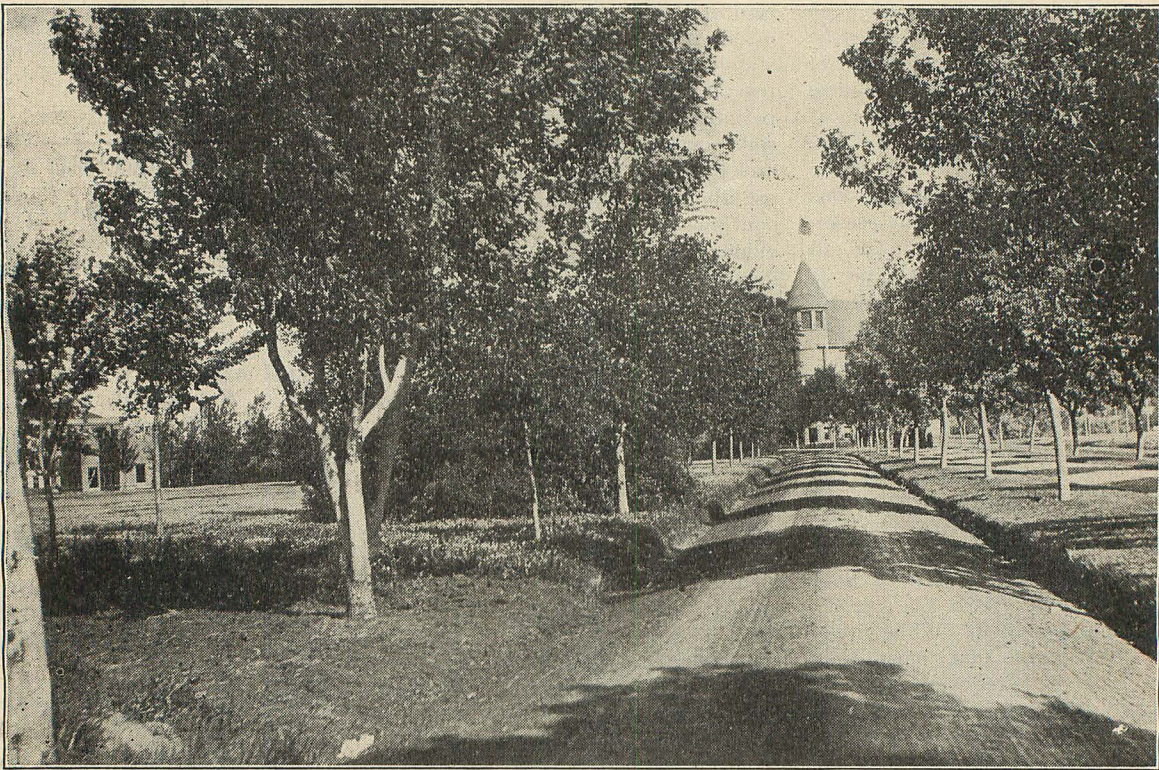
Mr. Adams will not give out the details of the discovery of his famous plant, which places him along with Luther Burbank as an originator of new ideals in plant life. He has "the goods" and he says they speak for themselves. In a nutshell, he has a wheat which is

pounds of seed. He sowed that seven pounds as spring wheat in 1906, and from the seven pounds harvested 1,545 pounds that fall. In the fall of the same year he sowed it as winter wheat, but conditions were adverse to a wheat crop. The winter was a bad one, nearly all the "blue stem" and "club" wheat was destroyed, and only a third of the crop of experimental wheat came to maturity, yet when harvested there was a yield of 53,000 pounds from the 1,545 pounds of seed, an increase of a fraction less than 35 fold. A heavy hail storm in July was the cause of the ruined wheat crops in that vicinity, which left hardly any of ordinary wheat standing.

Following that yield, Mr. Adams divided his seed, sowing a part of it last

bushels to the acre, or 6.23 times a number crop. To show what the Alaska wheat may do for the farmers of the world, multiply the probable wheat field of this summer by six times, or nearly six and a quarter times, and there is a sample of what might happen had all the farmers used this wonderful new wheat. It would mean an addition to the wealth of America alone, by millions of money, and would raise the value of wheat lands everywhere, making wheat the best paying crop in the world.

May 4, the Idaho college of agriculture made a laboratory test of the wheat, and reported the grains plump and sound, and that it should make better bread than "blue stem." The wheat also showed a much higher protein con-



A Glimpse of the Administration Building at the Agricultural College

either spring or winter wheat just as the farmer desires to sow, a wheat so sturdy that storms that ruin other sturdy stock affect its giant stem but little, and the heads of which remain erect thru ordinary hails. But the greatest thing of all regarding this wonderful wheat is that it yields so much greater a ratio of crop than ordinary wheat, as to make the story almost past belief, a yield which shows that Mr. Adams on his Idaho farm has been able to secure an increase of 222½ fold.

According to the story given out by Mr. Hobe, taken from records in his possession, Mr. Adams had but one head of the giant wheat in the fall of 1904. He planted the seeds from that head in the fall and the next year secured seven

fall and the balance this spring. He now has nearly 900 acres in seed of the new wheat, and has saved some seed to guard against total loss this year.

The farmer will understand without explanation what this new seed means to the world. The average man can hardly realize. Mr. Hobe explains with great enthusiasm that it is the most wonderful stride in wheat culture since wheat was used to make the staff of life. Ordinarily, he says, the farmer sows a bushel and a peck of seed to the acre. Out of that, a big yield would be 55 bushels to the acre, under exceptional circumstances, or an increase of 44 fold. The Adams wheat has shown as high as 222 and a fraction. Carry this out on the same plan and it would mean 277

tent, making it more valuable for food. The chemist, J. S. Jones, asked for a sample for milling test as soon as possible, but Mr. Adams is careful of his seed, and has only one pound of it out, and that on a written contract with the Oregon experimental station that it will sell no seed. For this wheat Mr. Adams received \$300 a bushel, having sold a pound for \$5 to the state. He has an offer from a New York seed firm, to handle the seed, paying him 60 per cent of the net receipts. He insisted upon asking what they intended selling for, and was told \$25 a bushel. He immediately declined, saying that it was too much money, and that he was a farmer himself and was not in the highway robbery business.

GOVERNMENT TO STUDY SHELTERBELTS FOR BENEFIT OF FARMING INTERESTS

Uncle Sam's tree planting and farm experts have just undertaken a practical and scientific study of the use and effect of timber windbreaks and shelterbelts in the agricultural regions of fourteen western states. This is the first time in this country that a study of this much discussed question has been undertaken over a wide region under one plan, for the purpose of collecting data for the benefit of the agriculturists who are developing the western plains. At present windbreaks are planted haphazard, one kind here, another there. If one kind is better than another, the government experts think that fact ought to be known, and it is believed that the study about to be undertaken will settle the question once for all. It will at least collect such facts never before brought together.

The work will be done by the United States Forest Service. In some states the agricultural experiment stations will co-operate in the studies, and in these cases the Forest Service will provide the necessary apparatus, and the other expenses will be shared half and half by the government and experiment stations. The investigations will be taken up in five states this year and extended to the other nine as rapidly as the investigations are completed. Four of the states in which the study will be made this year are Nebraska, Colorado, Oklahoma and Kansas. The fifth will be either Minnesota, North Dakota or Iowa. Ultimately the investigations will cover Minnesota, North Dakota, South Dakota, Nebraska, Iowa, Kansas, Oklahoma, Colorado, Texas, New Mexico, Utah, California, Washington and Idaho.

The sudden ruin that hot winds sometimes bring to growing crops in parts of the West are well known. Blowing strongly across the unobstructed plains, these winds may in a few days blast all hope of even a partial harvest. This is particularly in the lower portion of the central plains region, and in years of unusually low rainfall. Here the winds most to be feared blow from the southwest or south. In the northern prairie region the former is exposed to the hot "Chinook" wind, which sweeps down from the Canadian mountains. This either dries out growing crops or, if it prevails before the danger of killing frosts is past, causes loss thru urging vegetation forward prematurely. Cold winter winds also do great injury to crops, make the climate more severe for stock and men, and interfere with an even covering of snow upon the ground. This is true from Canada almost to the Gulf.

In Southern Claifornia, dry winds from the north and northeast sweep down from the Mohave Desert with destructive results. Coming in June, these winds may reduce the wheat yield of unprotected fields to almost nothing. Windbreaks of eucalypts and Monterey cypress, now in such common use to protect orange groves and orchards, long ago convinced possessors of highly valuable irrigated land of the value of tree planting for protection purposes.

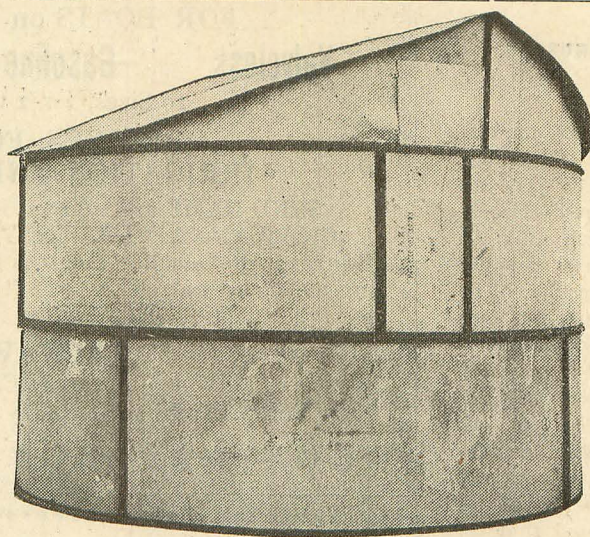
But there are two sides to the "wind-break question. Some prairie farmers declare positively that belts of osage orange, for instance, are a "nuisance." Others cite figures to show positive benefit. Mr. Morris Thompson, who lives near Downs, Kansas, gives his yield of corn from a field protected on the south by a row of tall cottonwoods as six bushels per acre more than in places where there is no protection. About fifteen acres are benefited in this way. It is highly improbable that the wind-break occupies sufficient land to offset this benefit.

An Illinois farmer sums up his observations upon this matter thus: "My experience is that now, in cold and stormy winters, wheat protected by timber belts yield full crops, while fields not protected yield only one-third of a crop. Twenty-five or thirty years ago we never had any wheat killed by win-

ter frosts, and every year a full crop of peaches, which is now rare. At that time we had plenty of timber around our fields and orchards, now cleared away."

The Forset Service proposes to find out just when and how much wind-breaks increase the yield of crops. To carry out the plans, much technical work will be necessary. Instruments will be used to measure heat and cold, moisture and dryness; both above and below ground; to register the force of the wind near the wind-breaks and some distance away; to measure light intensity, and take note of the effects of shade; to register frost at different distances from the trees; and to keep account of the effect of the wind-breaks on the snow which covers the ground to leeward in winter. Many other measurements and tests will be made, and elaborate data will be collected by experts who will have charge of the study.

Many disputed questions will thus be settled and the data gathered will be placed at the disposal of the farmers who desire it. Doubtless rows of trees between fields sometimes do more harm than good, by casting shade and abstracting water for the soil. Trees may also increase the danger from frost, since the movement of the air lessens that danger. The Forest Service will study all sorts of conditions, including the relative value of wind-breaks, consisting of a single row of trees, and shelterbelts,



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made up of a number of such rows. A wind-break is usually planted for protection alone, a shelterbelt for both protection and the growing of timber.

Corn will be the crop studied behind the wind-break this year. Trustworthy conclusions can not be obtained by comparing results from different crops. Each crop makes its own demand upon the soil, so that what would destroy one might do little harm to another. Corn is a particularly good crop to experiment with because it is easily injured by hot dry winds, will not stand shading, and is very sensitive to frost.

The instruments and apparatus for each State will be read weekly by persons assigned to that duty by the Agricultural Experiment Stations in the respective States. The whole work will be in charge of an expert for the Forest Service at Washington, who will be assisted this summer by three or four persons, also from the Forest Service, who will study general conditions in the States under investigation; in regard to the effects of wind-breaks on crops. The work will continue until crops are gathered next fall, when the actual yield of sheltered fields will be measured, and results compared with nearby unsheltered fields. Some of the observations will continue thru the winter.

It is expected that the results will be published both by the Forest Service and by the Experiment Stations which cooperate in carrying out the work.

VALUE OF LIQUID MANURE

Prof. Harry Snyder

In discussing the value of manure the comparative value of the solids and liquids are to be noted. The nitrogen value of the manure is largely in the liquid portion, which must be saved to secure a balanced manure and to obtain the best results. The use of sufficient bedding prevents loss of the liquids. About half of the nitrogen consumed in the food is returned in the liquid manure. Now, if the liquids are lost, there is a loss of half of the nitrogen to begin with, together with loss of a large portion of the potash and a part of the phosphoric acid. Thus it is to be noted that, in order to get a balanced manure, both solids and liquids should be used. Too frequently the manure that is applied to the land contains only 20 per cent of the fertility of the food, whereas it should contain 80 to 95 per cent.

ARIZONA BENEFITS FROM NATIONAL FOREST ADMINISTRATION

A striking illustration of the benefits of forest management by Uncle Sam has just been reported from southern Arizona. In this region fuel of any kind is

exceedingly scarce and difficult to get. It is supplied chiefly by Mexicans, who go up into the mountains with burros, cut the fuel from juniper and oak trees, and then take it out in small loads on the burros.

In the past, the ranchers living at the mouths of the canyons in the Dragoon Mountains, have prevented the Mexicans from reaching the most accessible timber, and perhaps justly so, because promiscuous cutting would unquestionably have damaged the watershed and unsteadied the flow of water in these canyons, on which the ranchers were dependent for irrigation. Since the establishment of the National Forest, however, the cutting of wood has been carefully supervised, and only dead and mature trees, the removal of which would not injure the watershed, have been cut.

Careful cutting of this kind has been allowed in the areas which have heretofore been closed to use, and as a result,

the price of wood has actually been reduced in the small towns around the National Forests. For instance, in Pearce, an important mining town nine miles from the Forest, the price of wood previous to the creation of the National Forest was \$8 per cord. It is now only \$6, and this decrease can be wholly attributed to the improved administration of the Forest.

DURUM BREAD

Walter Hubbard, Baker and Confectioner, Rusk Manufacturer and Purveyor, Glasgow, Scotland.

January 20, 1908.

Mr. Charles Cristadoro.

Dear Sir: I feel that I owe you a letter of thanks for your article in the National Baker of November last about durum flour.

I have been much interested in this article, durum, and during the last year or so have used several hundred sacks of

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Dr. J. C. R. CHAREST,
Therapeutic Specialist.

1123 Fifth Ave. S., Fargo, N. D.

it in my general baking, but never realized its real usefulness till I saw your article, giving a new idea of it altogether.

Acting on your advice, I started a small batch of pan loaves, solely from durum, and set a doughing machine to work at it, letting it mix away thirty minutes at least, three times as long as is usually required. This dough was a revelation to me; it was so stiff and fine, and when made up into loaves and baked it turned out splendid bread of good color, flavor and body, and produced two pounds of bread for each pound of flour used, a much larger turnout than any other flour I have tried.

I next used it in the same way, but with a mixture of nearly half soft winter wheat flour, to see if this wouldn't stand the treatment, and I got a most beautiful loaf, perfect in color, moisture, and all good qualities. I have just cut the pure durum bread after it has lain uncovered for fourteen days (two weeks), and find it still moist and sweet and well up in weight, thus proving that the flour has not only been able to take up the extra water, but also to hold it—and thus showing the valuable nature of the article.

I have thought you might like to have this record of a baker's experience with an article against which there seems to be so much prejudice, on this side as well as on yours.

Bakers here have said that it is impossible to make bread with it, even after trying it. But my experience has been quite different, and I think it a pity that a valuable article like durum should be neglected from ignorance of its qualities. With best regards, I am,

Yours,

WALTER HUBBERD

The foregoing speaks for itself and clearly indicates that not all has been told about this subject as yet. Let us get at the real value of durum for flour and bread making.

Hundreds are using Personal,
page 19.

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CROP CONDITIONS

The condition on July 1 (or at harvest time), with comparisons, of the various crops investigated by the Bureau of Statistics of the Department of Agriculture is as follows:

Crops	Acreage compared with 07	July 1, 1908	June 1, 1908	July 1, 1907	10-year July av.
Winter wheat.....	105.8	80.6	86.0	78.3	80.2
Spring wheat	103.7	89.4	95.0	87.2	87.6
Total wheat	105.0	83.9	89.4	81.6	82.9
Corn	101.1	82.8		80.2	85.6
Oats	99.4	85.7	92.9	81.0	87.5
Barley	103.9	86.2	89.7	84.4	88.3
Rye		91.2	91.3	89.7	90.1
Potatoes	102.4	89.6		90.2	91.6
Tobacco	93.0	86.6		81.0	86.0
Flax	92.8	92.5		91.2	90.0
Rice	104.5	92.9		88.7	
Hay (all tame)		92.6	96.8		
Timothy		90.2		82.2	86.0
Clover	96.4	95.5	96.7	76.4	84.0
Alfalfa		86.1	88.9	88.5	
Pastures		94.6	97.7	88.9	91.9
Apples		57.6	66.0	44.0	62.3
Peaches		69.7	73.0	35.7	57.9
Pears		69.7	70.9		
Grapes		87.9		84.0	87.1
Watermelons		81.4	81.1	79.0	
Cantaloupes		82.7	81.9	72.7	
Blackberries		90.5	94.0	87.8	
Raspberries		88.4	91.9	85.8	
Cabbages		88.3	90.4	88.9	
Onions		90.3	92.1	89.6	
Tomatoes		89.4		81.5	
Sweet potatoes	100.3	89.8		86.0	
Beans		90.0		86.8	
Sorghum		87.7		85.0	
Sugar cane		91.7	91.3	92.8	
Sugar beets		86.9	86.2	91.2	
Hops		83.8		89.6	
Hemp		80.4	86.0	89.1	
Broom corn		79.8		84.2	
Peanuts		88.2		84.2	
Wool, lbs. per fleece		6.6		6.7	6.3
Oranges		91.4		84.0	
Lemons		92.9		89.7	

Spring Wheat

The average condition of Spring wheat on July 1 was 89.4 per cent of a normal, as compared with 97.0 last month, 87.2 on July 1, 1907, 91.4 on July 1, 1906, and 87.6 the ten-year average on July 1. Comparisons for important states follow:

States	% of U. S. acreage	July 1, 1908	June 1, 1908	July 1, 1907	10-year July av.
North Dakota	33.4	93.	97.	88.	85.
Minnesota	30.3	90.	95.	85.	86.
South Dakota	16.7	95.	97.	89.	88.
Washington	5.7	65.	93.	95.	94.
United States	100.0	89.4	95.0	87.2	87.6

Barley

The average condition of Barley on July 1 was 86.2% of a normal, as compared with 89.7 last month, 84.4 on July 1, 1907, 92.5 on July 1, 1906, and 88.3, the ten-year average on July 1. Comparisons for important States follow:

States	% of U. S. acreage	July 1, 1908	June 1, 1908	July 1, 1907	10-year July av.
Minnesota	18.4	89.	96.	86.	89.
California	16.2	71.	70.	78.	84.
North Dakota	14.1	94.	96.	89.	86.
South Dakota	13.9	95.	97.	92.	90.
Wisconsin	12.3	94.	95.	90.	91.
United States	100.0	86.2	89.7	84.4	88.3

North Dakota Farmer

AND SANITARY HOME.

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PROF. C. B. WALDRON, Fruits, Forestry, and
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Corn we have been told would not do well in North Dakota but now we find that big fields are given to this crop. Corn, wheat and clover are the three great crops in any system of rotation for this state. Let us bear this in mind and shape our system of agriculture to these conditions. Even if the corn crop does not fully mature every year, it pays well as a feed for stock and puts the land in shape to produce twice the yield of wheat.

A few years ago when farmers were urged to diversify and grow clover, it was repeatedly said that clover would not grow in the state. No longer do we hear this statement and clover is coming to be one of the hay crops of the state. We shall now see improvement in our farm lands if only the farmers will but grow more clover. It is quite likely that on heavy land, alsike clover will be found to do better than red clover. Such has often been found true on heavy clay soils in the east.

Now is the time that dairy cows need to have some extra feed to keep up the flow of milk and to keep the fat to the standard demanded. If you have a field of corn fodder near the pasture a little feed will work wonders during the shortage. There have been many rainy days but after all the rainfall has been comparatively small and it takes but a few days of dry hot weather to affect the pasturage and to cut down the milk supply and when once cut down it is not again fully regained.

If your crop of weeds is allowed to go to seed, then the land is sure to become foul. Better get rid of them before it is too late. Cut them down or spray with some chemical to destroy them. It has been a great year for weeds and grain is going to be docked heavily on account of it. Wild peas are fast coming to be a nuisance in the wheat field for it takes but very few peas to injure the flour, giving a rancid odor to it. Wild peas are hard to remove from the wheat at the mill. See that you save seed from a field free from weeds and especially from wild peas.

All nature takes a period of rest. There is the period of production during spring and summer, then winter stops all and forces rest and preparation for a renewal of life. Fully one-third of the year is needed to prepare for the coming of new life. Even in the tropics there is the period of growth and the period of rest. Then why should not man require rest from duties and is it too much that he rests one-seventh of the time in order that he may the better perform his duties whether allotted or self-imposed? Let us not forget that to do its best all nature warns us to take a period of rest, and then to go forth with renewed energies to perform our duties.

North Dakota has a great variety of soils, and why should it not have for its area is equal to all of New England together? Some of the soils are exceptionally well stocked with plant food, including humus, phosphoric acid, lime and nitrogen. There are other soils very deficient in some of these elements, especially phosphates and lime. We must recognize this fact in our system of agriculture and so shape the same as to meet existing conditions. Barn manures and even commercial fertilizer will in many sections be needed. Lime will be demanded in other sections no matter what our people may say. There are other parts of the state where commercial fertilizers should never be needed and yet they may be among the first to adopt them as the result of poor systems of agriculture. Fighting nature is poor policy and yet many are doing this very thing.

What has just been said but emphasizes the necessity for having the soils of the state analyzed and studied to determine their store of plant food, just as you would take stock if the assets of a bank to learn of its condition. A soil analysis will not, as many think, tell you what crop may be safely grown on the land or just in what condition the plant food may be in. It does, however, show you whether there is present plant food in small or great proportion and then with this knowledge you can

adopt such a system as will best serve for that locality. Sending in soils taken in any shape or fashion and expecting a chemist to diagnose the condition is time and money thrown away. What is needed, is a systematic study of the chemical and physical conditions for localities. Such conditions as are now found at the demonstration farms are to serve as the basis for a full study of this soil question.

North Dakota is for all time to be an agricultural state, not a great manufacturing center and what is needed above all else is such aid and legislation as will promote the agriculture of the state. Money expended judiciously in promoting agriculture is money well invested by the state. Wheat is to be the great central crop around which all agriculture is to develop in most parts of the state. Then that which will aid in making the wheat crop of North Dakota as it has been in the past, hold first place in the milling centers is bound to aid the state in the end. We need a better knowledge of the wheats grown in the state. How can we keep up and improve the standard of our fine wheat for those sections where it does well and what about the durum for other parts of the state? Which one of the durnums is best for western North Dakota and how shall we improve it?

Wheat studies have been made at our experiment stations but the time has come when the stations need to do more. They need to look at the problem from the standpoint of the farmer, the miller and the user of the flour. For this purpose our stations need to be better equipped. They must be prepared to mill the wheat and to test the flour in every way possible and to study the demand of the consuming public. Let us prepare to lead in this work here in North Dakota and let no state have a more enviable record for advances made. If, for example, as has been said by millers and bakers, Velvet Chaff wheat is not a good milling and bread producing wheat, then our farmers should know it from authoritative sources and the reasons for it. Then we shall find them ready to leave it. On the other hand, if it can be developed into a good milling wheat, our station and demonstration farms should lead in the work.

During the busy season do not forget to salt the farm animals. Every ruminant needs salt to supply the wants of the body and to promote digestion. Animals, however, that have to drink water overcharged with salt may in this way get the necessary supply, but usually such water, also carry an abundance of other salts, alkalies, glaubers salts,

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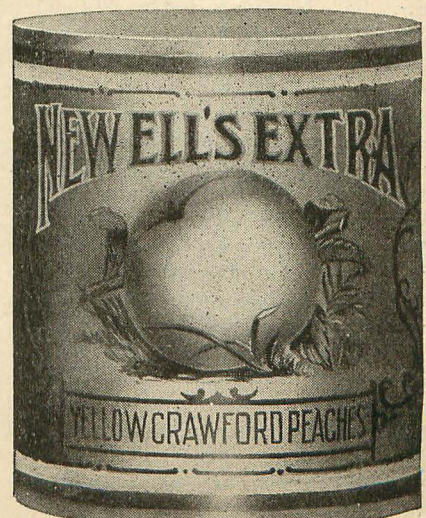
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etc., and may become harmful to the animal forced to quench its thirst from such waters.

Bad water means injury not only for man but equally so for his stock and this is especially true for horses, they being more affected than horned animals. Colic is common among horses forced to drink too freely of such water. Many an animal has been ruined or even killed by being obliged to drink such waters. Look well after the water, especially if the animals do not thrive well or have frequent attacks of colic.

"It is said that ninety per cent, says the American Grocer editorially, "of the flour milled is bleached, or, as some designate it, 'aged', by a chemical process. The excuse is that the people demand white bread. We doubt it. Consumers want sweet, nutty bread, of natural color, and they fail to get it because the flour of today is lacking in flavor. We do not know why, but we do know that appetizing bread is scarce; that the art of home-made bread making is on the decline. Whether bleaching the flour, which naturally comes thru age, is in part responsible or not, we can not say.

CHANGE IN REGULATIONS REGARDING CANADIAN SHEEP

The Department of Agriculture has amended its regulations governing the inspection and quarantine of imported animals so as to require a quarantine of thirty days for sheep imported from Canada for breeding purposes. This action has been taken by Amendment 3 to Bureau of Animal Industry Order 142.

The regulations as amended provide that all sheep imported into the United States from Canada for breeding, grazing, or feeding must be inspected at the port of entry by an inspector of the Bureau of Animal Industry, and also must have been inspected by a Canadian official veterinarian and be accompanied by a certificate signed by him, stating that he has inspected the sheep and has found them free from disease, and that no contagious disease affecting sheep has existed in the district in which the sheep have been kept for six months preceding the date of importation. The owner or importer shall present an affidavit that said certificate refers to the sheep in question. Sheep which upon inspection by an inspector of the Bureau of Animal Industry do not show signs of scabbies or other disease may be imported from a district infected with scab if such sheep are accompanied by a certificate signed by a Canadian official veterinarian, stating that they have been twice carefully dipped under his personal supervision, or under the

personal supervision of another Canadian official veterinarian, in one of the dips approved by the Secretary of Agriculture.

In addition to the lime-and-sulphur and tobacco-and-sulphur dips heretofore authorized, the amendment allows the use of approved coal-tar creosote and cresol dips.

NORTH DAKOTA PRIDE

William Montgomery, one of the successful Foster county farmers and stock raisers, at Carrington, has a steer which is a wonder. Without any special feeding he tipped the scales at 3130 pounds. This is undoubtedly the largest three-year-old steer in the United States, if not in the world, and goes to show what an experienced stockbreeder can do in North Dakota. Mr. Montgomery, the owner, is a full blooded Scotchman, raised in Dunbartonshire, where he spent the early part of his life. While he is a man past middle age, to meet him one would think him still a comparatively young man.

He is deeply interested in stock-raising and is one of the best posted stockmen it has ever been our pleasure to meet.

The big white steer has a half brother, also owned by Mr. Montgomery, which weighed 1,700 pounds when seventeen months old. Stockmen from Canada and other parts of

the United States have inspected "Dakota pride" and are all of one opinion regarding the big fellow and that is that he is worth crossing the continent to see if a person is interested in stock.

The owner has been offered as high as \$500 for him, but has insisted that he should bring at least \$1,000.

We have gone into this matter at some length because we have always contented that as good stock could be raised here in our state as in any place on earth if a really intelligent stock breeder devoted his time to the matter.

This calf was raised on separator milk and flax seed, when old enough he received plenty of oats and alfalfa. He is still growing and his owner believes he will yet make two tons.

This animal will be exhibited at the Minnesota State Fair also at the Chicago Fat Stock Show.

HONEY Well ripened clover Honey for Sale, guaranteed absolutely pure and of the finest quality. One 30-lb. can 11 1/2c per lb.; 2 or more cans 11c; 12-lb. cans, in full cases of 72 lbs., 11 1/4c per lb. Send for price list. Address

M. V. FACEY, Preston, Fillmore Co., Minn.

"Everhart's
Candies are
PURE."

Home Affairs

Katherine C. Neilson, Editor

FRUIT GROWING

Nowhere is there a greater need of a generous supply of fruit than on the farm. Fruits have great dietetic value and should be used generously and wisely. They are cooling and refreshing. Vegetable acids are an aid to digestion when not taken in excess. Fruit juices keep the blood in a healthy condition, when the supply of fresh meats, fish and vegetables are limited, small fruits like small grains thrive in this state. Strawberry culture is interesting many more than formerly and showing most satisfactory results. We should have commenced earlier and not been dependent on shipped fruits with inferior flavors and in a stale condition.

A small patch of ground, with some study and experimenting will give you fresh, delicious strawberries served with dew and sugar every morning for breakfast, for which one couldn't refrain from giving thanks.

Wild gooseberries are plentiful in the woods, currants are on the bushes just turning. Pieplant has passed its tender age, yet can be used as a base for marmalades.

CANNING AND PRESERVING HINTS

The most essential things in the processes are the sterilization of the fruit and all the utensils used.

Tumblers, bottles, jars and covers should be put into hot or cold water and boiled about fifteen minutes and removed as they are needed. The work should be done in a clean, dustless room, the clothing of the workers should be clean, as well as the towels. This is a process of preparing food as particular as butter-making. Utensils used should be of some ware not subject to chemical action. Wooden spoons, and plated fruit knives are the best for this purpose.

Seed Corn

North Dakota raised SEED
CORN is scarce--order early.
Write for our catalog of Millets,
Seed Grains, Grass Seeds, etc.

FARGO SEED HOUSE, - - - Fargo, N. D.

planting, symmetry and gracefulness are important considerations.

Cuttings are usually used in establishing a plantation of willow or cottonwood. The expense is little or nothing. Seedlings of broadleaf trees are easily procured. Unfortunately, coniferous stock is expensive. Considering, however, their high protective value in the winter, and their ability to resist drought, heat, cold, storm, and snow pressure, and the quality of the wood

produced, conifers have proved more desirable for permanent plantations than broodleafs.

The foregoing facts and other information and directions about planting are contained in a publication entitled "Forest Planting on the Northern Prairies," recently issued by the Forest Service. This publication can be had free upon application to the Forester at Washington.

AMONG OUR ADVERTISERS.

A BURNING QUESTION

Valley City, N. D.
Bovee Grinder & Furnace Works,
Waterloo, Iowa.

Gentlemen: The Straw Burning Furnace that I ought of you is giving entire satisfaction and I have found it all that you claim. I have used baled flax straw all winter and have not used a pound of coal and had no need of any. I found the flax straw to be the finest kind of fuel and furnished abundance of heat. I have a nine-room house and we heat all of it all the time. They are large rooms and the furnace heats them perfectly. A bale of straw will keep a good fire over night.

I can bale the straw as cheap as I can draw coal six miles from town if it was furnished free. Baled straw is very easy to fire, making very little ashes or smoke and no creosote and the furnace is easy to operate. With this furnace and baled straw the fuel question is solved.

Respectfully yours,
Bert Harris.

MONEY SAVED ON THRESHING OUTFITS

Big Manufacturer Adopts New Way of Selling His Output

Heretofore threshing machinery has been sold in a very round-about and expensive way. The factory has had jobbers, the jobbers salesmen and dealers, the dealers other salesmen, and then when a man was found who wanted to buy, the factory sent another and a very

high-priced man to help the local salesman close it up.

The first thresher manufacturer to cut out all this expense and go directly before the buying public in the Cascaden Mfg. Co. of Waterloo, Iowa, who have a big branch house at Grand Forks, where they carry a full stock of the famous Winneshiek Engines and Separators. In this way they not only save freight, but are able to make much prompter delivery.

They have adopted the unique plan of advertising direct in the home paper, believing that in this way a great many more will see their announcements and write them.

Elsewhere in this issue their first advertisement appears. Any reader of this paper who is planning to buy a threshing outfit should not fail to refer to the ad and write them. Address Cascaden Mfg. Co., Grand Forks, No. Dak., and learn how you can save a large part of the purchase price.

HORSE BOOK FREE

W. F. Young, P. D. F. 233 Monmouth St., Springfield, Mass., has recently issued a larger and more complete edition of his handy reference book "How to Remove Blemishes" which will be sent postpaid to any address upon request. This little book will be appreciated by any horse owner as it is full of "horsey" pointers and information that can be used to advantage. Send a postal today addressed plainly as above and the

book will be sent you by return mail free of all cost and postpaid.

The Auto-Fedan Hay Press Co. have built a factory at Kansas City about three times the size of the Topeka factory, and now can give their friends and customers much better service from that point than from their former location. On all eastern shipments they can save about \$7 freight, and on all shipments, whether east or west can make much better time, on account of the railroad facilities Kansas City affords.

One of the most important exhibits at the state fair is that of the North Dakota Metal Culvert Company. Their manufacture of grain bins is a boon to the farmers of the state. Think of a bin, costing but a fraction of one made of lumber, moisture proof, portable and thief-proof! With such there is no need of piling up the grain in the field, awaiting shipment. You will have to order early to get one.

It is a pleasure to mention the Bovee Grinder Furnace, for we have seen a demonstration the past winter of its efficiency. If the farmers of the state would examine into the merits of this furnace, they would easily solve the fuel problem. As long as our prairies furnish fuel in the shape of straw, we need not worry about the cord-wood supply. Shiver, if you will, about the stove, but give us the house thoroly warmed by furnace.

Among our new advertisers is the Lackawanna Mfg. Co., of Newburgh, N. Y. This firm is putting out one of the simplest and best constructed engines on the market. Such an engine is now installed in a 20-ft launch on the Sheyenne river. If you are interested in gasoline engines, it will pay you to write to them at 9 to 29 Coldwell St. Newburgh, N. Y. either for a catalog or, better still, send them ten cents for their "Instruction Treatise." Bear in mind that the address is Newburgh, N. Y., instead of N. D., as given last month.

One of the very best cream separators on the market today is the De Laval. Is there not a genuine ring to the advertising announcements of this company? If you take the pains to investigate, you will find the machine just as reliable as the statements regarding it. This state is making progress in the line of dairying, as in no other way. The purchase of a separator is, next to the securing of good stock, the most important act of the dairyman. The De Laval makes no extravagant claims, but if you "think and read for yourself," you will be interested in their catalog.

Livestock Department

PROF. W. B. RICHARDS, Editor

ANNUAL REPORT OF THE NORTH DAKOTA LIVE STOCK ASSOCIATION AND BREEDERS DIRECTORY ARE READY FOR DISTRIBUTION.

The first annual report of the North Dakota Live Stock Association has just been published and is ready for distribution. This report contains the addresses delivered and papers read at the annual meeting of the association of 1907 and 1908. There is some very interesting and valuable reading matter for the grower of live stock in this publication. It also contains many illustrations of live stock bred and owned by the breeders of the state. These illustrations show the progress that has been made up-to-date in producing improved types of live stock in the state.

The second Breeders' Directory of Pure Bred Live Stock is also ready for distribution. This directory includes the names of the breeders of all classes of pure breeds, the number they have on hand, and what they have for sale of each sex. The directory is to be published semi-annually in order to keep this information up-to-date.

Any farmer who is not on the mailing list to whom these directories are sent will be placed on the list upon request to W. B. Richards, Secy., North Dakota Live Stock Association, Agricultural College, N. D.

A limited number of the Annual Reports will be available for general distribution and they will be sent to farmers who request them as long as the supply holds out.

SELLING STOCK BY LETTER

It is generally advisable, in buying breeding stock, to visit the herd or flock and make one's selections in person, where one may not only see the animal he chooses, but also its sire and dam and family connections, and judge of its suitability to his purpose, and of the probabilities of its breeding true to the approved type. But, when, owing to distance, or other reasons, this is not convenient or practicable, one may, by correspondence with the breeder of good reputation, secure very suitable animals, and, as a matter of fact, a very large volume of business, in the aggregate, is transacted in this way, with, on the whole, very satisfactory results. In order to do this, the breeder who advertises his stock for sale should realize that not only his reputation, but his honor and character, are at stake in the

transaction of business where he has the advantage of "the party of the second part," inasmuch as he sees and knows the quality of the animal he describes and prices, while the buyer trusts him to do the square thing in the deal. And, for the sake of his own reputation, if for no higher reason, the seller should deal justly with the man who trusts him. As a rule, we believe breeders do act on this principle, and are more particular in giving the buyer good value for his money when so trusted than when the selection is made in person, and on the buyer's own responsibility. There may be, and doubtless are, dishonorable exceptions to this rule, cases in which the seller considers only his own present gain, and ships an animal he knows is not equal to the description given; but such a man is unworthy of the name of breeder or business man, and is as sure to get into trouble as if he were looking for it. And he deserves nothing better, but will soon lose the respect and confidence of the public, and any good reputation he may have had.

In conducting business by correspondence, the breeder should promptly answer letters of inquiry, whether he can supply the class of animal wanted or not. Undue delay in replying to letters indicates a serious lack of business ability and methods, and will lose a man trade very quickly, for it is probable that the inquirer has written more than one breeder, and may have given his orders to one replying promptly, before some of the others are heard from. Replies should state clearly the description of the animal, its breeding, and the price and terms of shipment. A copy of the letter written, or at least a memorandum of the contents, should in every case be kept on file. The business way is to use a copying press, which is not expensive; but, in the absence of this, a very good plan is to write on the back of each letter the name and address of the enquirer, the name of the animal priced, or at least of its sire and dam, and date of birth, the price and terms, and file the letters with others in a rubber band or a string, so that it may be conveniently referred to, in order that the contract may be fulfilled to the letter in every respect, in case a bargain is closed. There should in every such case be a clear statement and a fair understanding as to furnishing the buyer with a registered pedigree and transfer, either at the expense of the seller or the buyer, and a business man who recognizes the justice of the golden rule, of doing as he would

be done by, will attend to supplying the necessary papers with the least possible delay. The breeder who is careless or negligent in the matter of keeping private records of the pedigrees of his stock, and of dates of service and birth, and of the sire used in each case, will surely find himself in frequent trouble and will cause no end of trouble and vexation to his customers. The business breeder will take an interest in seeing that stock sold for shipment by him is shipped in good condition, clean and free from lice or disease, with sufficient feed and bedding supplied for the trip; if necessary, blanketed in cold, or shaded by a light covering in hot weather; and, if the animal is tied in the car, will see that the halter does not draw too tightly on its head, and that the shank is long enough to allow the animal to lie down comfortably, and will give instructions, if necessary, for feeding and watering on the way. If it be a pig or sheep or fowl, to be shipped in a crate, he will see that the crate is strong, sufficiently roomy to avoid cramping, and not heavier than is necessary, since the transportation charges are according to weight, the crate included. For small animals, half-inch lumber, 4 to 6 inches wide, for the side boards, is generally sufficiently strong, if well braced; while, for heavy animals, lumber one inch thick thruout is strong enough. It is a good plan to keep on hand a stock of material of standard sizes, ready for immediate use when needed, and crates of different sizes may be made on rainy days, ready for use when required. The business breeder will have his address printed on his letter-heads and envelopes, and address cards to tack upon his shipping crates or tie upon the halter of the animal shipped, thereby advertising his stock and himself as a breeder of some consequence. The old saying, "What is worth doing, is worth doing well," applies with full force in the shipping of stock, and is a paying proposition, since the business character of the man will be judged, to a considerable extent, by the attention given to doing things well.—The Farmers Advocate.

WHAT ARE DOUBLE STANDARD POLLED HEREFORDS.

Editor North Dakota Farmer:

There seems to have arisen in many sections a misunderstanding of the term "Double Standard Polled Herefords" as applied to the new strain of hornless purebred Herefords. In order to set breeders right in the matter we ask that you kindly give space to the following short discussion of the subject in your journal.

Double Standard Polled Herefords are simply purebred Herefords without horns. They originated from freaks of nature which were hornless altho both

sire and dam had horns. These freaks when mated with horned Herefords produced a large per cent of their calves without horns and these hornless cattle have since been developed into the new breed called Double Standard Polled Herefords.

The idea seems common among breeders that to be a "Double Standard" a Polled Hereford must have both sire and dam polled. This is not the case however, as any pure bred Hereford that fails to develop horns is a Double Standard Polled Hereford. The term "double standard" comes from the fact these polled cattle are eligible to registry in two herd books, namely, the American Hereford Record at Kansas City, Mo., and the American Polled Hereford Record at Des Moines, Iowa. They are thus double recorded, that is they comply with two "standards" of requirement for registration and hence are called Double Standard.

Any breeder of pure bred Herefords can breed Double Standard Polled Herefords simply by using a Double Standard Polled Hereford bull with his horned cows. The use of polled cows is not necessary in the breeding of Polled Herefords, altho of course the use of polled ancestors on both sides insures a larger percent of polled progeny and fixes the polled character a little more firmly in your herd.

Calves sired by a Double Standard Polled Hereford bull and out of registered horned Hereford dams are eligible to record in the American Hereford Record just the same as calves from the same cows by a horned Hereford bull and so many of them as fail to develop horns are also eligible to registry in the American Polled Hereford Record.

Warren Gammon, Secretary,
American Polled Hereford Breeders
Association,

Des Moines, Ia.

AZATOURIA

By Prof. Geo. H. Glover, D. V. M., Colorado Agricultural College

This is the name of the disease I am going to tell you about. If I knew a more common name for this strange malady, I would prefer to use it. After reading the description of this disease, any of you will recognize it, and perhaps remember it to your sorrow. This is the way the disease comes on:

A horse is in perfect health, that has been worked regularly, and then allowed to stand in the barn from one to three days, is taken out to work, and before he has gone far, will begin to sweat profusely, get lame in one hind leg, tremble and lose his usual spirit. If he is kept moving, he will soon go down with paralysis of the hind legs, the eye balls will turn yellow, he will breathe

rapidly and in a few days will probably die. This malady affects horses only, and almost invariably comes on in just the way described. Prevention consists in reducing the amount of feed when the horse is not at work. When on the road, if he begins to sweat profusely, stop then and there, no matter where you are, if you value the life of the horse. Knowing these things will often save the life of a valuable animal.

It is not my purpose here to take up a discussion of the pathology of the disease. "An ounce of prevention is worth a pound of cure." This disease may be entirely prevented by the proper feeding of the animal, and the fatal termination may be prevented in many cases by unhitching him when the first symptoms appear. The paralysis is caused by the impure condition of the blood, and this condition of the blood is caused from accumulation of the azotized or improperly changed or unassimilated excessive food products circulating in the blood. The treatment consists in eliminating these products thru the excretory channels of the body, giving, say, an ounce of aloes as a physic; two ounces nitrous ether as a general stimulant and to stimulate the kidneys, and throw on the blankets. The muscles over the hips usually become very hard, and some benefit, no doubt, might be derived from the use of stimulating liniments, with vigorous rubbing of the hips.

The disease is very fatal in the eastern states. In the West, under the same treatment, it seems that a much larger percentage of cases are saved. A knowledge of the conditions under which this disease appears would save the owners of horses many a valuable animal.

HORSE BREEDING

By Dr. J. W. Robinson, Garrison, N. D.

Paper Read before Annual Meeting
of the North Dakota Live Stock
Association

To begin with, we may ask the question; does it pay the average farmer to raise horses? Like all other business, the horse breeding industry must be understood in order to make a success of it, but with the material to work from and the general environments of our North Dakota farmers it seems that this important branch of agriculture looks very promising.

It is important that every farmer should understand the horse, and cannot help but learn if he works in the right direction; and here we may say that one of the best starts that could be made is to send the boys to the Agricultural College, and together with this,

subscribe for good agricultural and live stock papers.

A great many farmers put up the argument that it is too hard to get a start. But why? Like all other branches of farming, you cannot expect to start at the top notch, but do the best you can, and with a few years of intelligent management the harder part will be overcome. A certain number of horses are necessary on every farm according to the amount of ground under cultivation; and why not let some of them be brood mares? There is usually a break in the season after the crop is in, and it could be so arranged that foaling time would come during this period, say in June or July.

In choosing our material to start with, let us not pay so much attention to breed as to quality; but let it be understood here, that we are dealing with the work horse only. Like begets like, and in order to get the desired offspring, we must have the dam and sire as near perfect as we can. Of course, it is not practical to put too much stress on this regarding the dam, as the average farmer cannot afford to pay a fancy price for a pure bred mare; but get the best type you can of the breed you wish to follow. It is a common thing to find men who think that any old broken down, curbed, spavined and deformed mare will do to breed. This is a great mistake, and to buy such an animal would be a poor investment, because, as we have said before, she should be able to do her share alongside the geldings nearly all year; so why not consider the importance of soundness for work purposes alone? However, we shall pay more attention to soundness when we come to the sire.

The next question arises: Can we find suitable stallions? This is one of the greatest barriers to the breeding industry and one that can and only will be overcome by persistent work along the lines of intelligent breeding. By all means, breed to the highest type of a stallion obtainable, always aiming to mate your mares with horses of breeding nearest their own. That is, for example, if your mare is of Percheron breeding, mate her with a pure bred Percheron stallion.

In choosing a horse of good breeding we do not merely pick one that has a flashy certificate, but may regard the pedigree as a safeguard and guarantee that the required number of top crosses are there, but it would be much better to depend upon the honesty and reliability of the breeder and the sire's ancestry. Outside of pedigree the sire should be possessed of the desired individuality and conformation, and free from hereditary and communicable diseases. A certain weakness of the sire may not show in the offspring, but the law of heredity is so strong that the natural tendency

would be for the young to develop a predisposition to the same unsoundness. As an example of heredity, we may recall a case, applying to color, that came under the observation of the writer. A certain grade Percheron stallion of unknown breeding, altho gray in color, invariably got sorrel colts, regardless of the color of the dam. Had the breeding of this horse been known, this sorrel color may have been traced back to some of his ancestors.

A great many of our farmers have good stallions of their own and no doubt they would be more plentiful if there were more good mares in the country. Then, does it not stand to reason that if we do the best we can with the material at hand, we will, in a few years, be able to take our mares to some neighboring stallion or exchange with some neighbor in that vicinity? A great many more farmers might profitably invest in a young stallion; even tho it be only a yearling, the cost of raising is so small that trouble and expense would be many times doubled by the increase in value after a couple of years' development.

To all those attempting breeding the care of the pregnant mare should be studied. It has been the experience of the writer that a mare in foal can work right along in the field, under the management of a careful hand, without the least danger. Let each mare be provided with a clean, well bedded box stall, and for safety, in the way of preventing injury, should have access to the stall some time before the foal is expected. Of course, if the date of foaling is kept track of, as it should be, and the mare is not too badly needed, she may be turned out to pasture, as there is no place better than the clean prairie grass. In case work is stopped and no pasture is available, by all means have a paddock where exercise can be taken at liberty; at any rate, see to it that the mare does not stand in idleness several days before foaling. It would be no more than humane to give the dam at least two weeks rest after foaling, and this can best be taken in the pasture. When you wish to start her to work again, take her in the box stall with the youngster, and by all means leave him there when the dam goes to the field. Of course, she will be uneasy on the start, and the little fellow will fret more or less, but if there are two colts, let them run in a stall together, or perhaps some old gentle driver may be tied in sight of the colt, and this will prove a great deal of company to him. On the start, it would be well to let the colt nurse at least once between meal times, and then he may be given drinking water and small feeds of crushed oats while the dam is out. In a short time he will take enough nourishment this way so that he can easily wait until noon or evening for his mother. Later on he

may be fitted with a halter, and when the dam goes out, can be tied up a little while each day, and will become gentle, so that when breaking time comes the hardest part is over. It is well to have a paddock in connection with the box stalls where each day the colts may run and play at their leisure. After having considered the dam's side, it may be well to talk over a few of the practical points concerning the sire.

The average man thinks because his stallion represents a large amount of money, he should be kept in idleness, and the chances are that when purchased the horse is loaded down with fat and on account of his being in a show condition it is the desire of the owner to keep him looking nice. This is decidedly wrong, and, on the contrary, let him be in a good, solid condition and kept so by giving him work, then, if the horse is sound, you may expect him to get his full percentage of foals. It is not always necessary that the stallion go into the field, as around the farm there are usually odd jobs, such as hauling manure, stones, etc. Should conditions be such that this kind of exercise is impossible, let him have four miles a day on the road. During the hot months this would be most beneficial in the cool of the morning. He should have a large, clean, box stall fitted with two doors. The one may be for convenience in leading him in and out, and may be in two sections so that the upper part may be left open during the daytime, and for safety a strong bar of 2x8 should be adjusted across at about the top of the bottom door. Let the other door open into a strong paddock, where he may run at his own free will, the door only being closed in cold or stormy weather. Let the feed consist of good, clean hay and sound oats with an addition of a liberal handful of bran mixed in the feed. Many horses will relish a feed of good, crisp carrots once a week, and they are beneficial in toning up the system and tend to keep the bowels in a healthy condition.

By each farmer doing a small amount of intelligent work along the lines of breeding, it should become a pleasant and profitable part of his agricultural interests.

NORTHWESTERN LIVESTOCK ASSOCIATION

Editor North Dakota Farmer:

The Northwestern Livestock Association will give its second annual show this Fall. This show is supported by subscriptions from the business men at the St. Paul Union Stockyards and also from the business men in St. Paul.

It is conducted with the idea of encouraging the farmers and feeders in this territory to produce a better grade of livestock, and to produce more fat

stock. You, of course, appreciate that everything done to build up the livestock industry in this territory will directly aid the prosperity of your community.

The Show has no funds to spend in advertising, but we believe you will appreciate its worth to the extent of giving us some notice as."

Yours respectfully,

Northwestern Live Stock Ass'n.

By Wm. Magivny,

Gen'l Manager.

CATTLE QUARANTINE NOTICE

Removal of Quarantine for Cattle Mange From Four Counties in Kansas

The Secretary of Agriculture has removed the quarantine for mange or scabies of cattle from the counties of Norton, Graham, Phillips, and Rooks, in Kansas, to take effect March 1, the disease having been practically eradicated from these counties. This action has been taken by Amendment 1 to Bureau of Animal Industry Order 145, copies of which may be obtained by interested persons on application to the Bureau at Washington, D. C.

There still remains in quarantine the western portion of Kansas, bounded on the east by, and including, the counties of Decatur, Sheridan, Trego, Ellis, Rush, Pawnee, Edwards, Kiowa, and Comanche. Other territory in quarantine for the same disease is the entire State of Nebraska and parts of Montana, North Dakota, South Dakota, Colorado, Wyoming, Texas, New Mexico, and Oklahoma. The Bureau is working, in co-operation with state authorities, for the eradication of cattle mange from the country, and the policy is to remove the quarantine restrictions from any considerable area as soon as it has been freed from infection.

FOOD MUST BE PALATABLE

When a plant is young and tender it is agreeable to the taste of the animal. There is woody tissue in this state of growth, which suggests a more favorable condition for digestion and assimilation in the animal system. Besides it is reasonable to suppose an appetizing ration would be more readily appropriated than one which neither tempts the taste nor increases the appetite. Many a feeder owes his success to his ability in preparing the food placed before his animals in a wholesome and agreeable manner. Hunger will make the animals partake of the food set before them, but nothing the feeder can do will make these same animals eat a quantity of unappetizing food sufficient for maintenance and profitable

growth or milk production, and since growth and production result from food consumed it follows that flavor and taste are important even though they add nothing to the energy or building capacity of a feeding stuff.

In a general way it may be said also that an animal will digest as high a per cent of food eaten when it is eating its full capacity as when placed on but half the quantity it might be able to eat. Rapid growth and full milk flow therefore follow when the animal eats large quantities of food, showing again that palatableness is quite necessary for the most profitable feeding.—N. C. State Board of Agriculture.

SHEEP RAISING IN NORTH DAKOTA; LAMBING

You wrote me last spring that you would like to have an article from me about our lambing, and as the evenings are long and I have the time I will write you how we conduct that part of our business. Well, the time will be here pretty soon when we will hear the gentle bleat of the young lambs, and I hope it may be a good lambing this year, as we had two successive years of very bad weather and many of our brother sheepmen lost about one-half of the lamb crop. Well, we hope that we don't have any bad luck this year. We are breeding our ewes to commence lambing about the 5th or 6th of May. The first of May we are thru with our seeding and make preparations for our youngsters.

First, we clean out our sheds and remove all the manure and cover the bottom with oat straw. Then we build about 40 single pens about 3 by 4 feet, all on one side of the shed. On the other side of the shed we build also from ten to fifteen single pens, only two feet wide and about 4 feet long. When the lambing is starting we send out a wagon to the flock about noon and evening and if the weather is bad the wagon stays with the bunch continually and when there is a lamb dropped it is taken home as quickly as possible. If the weather is good of course the lambs stay with their mothers on the prairie until there is a load, about eight or nine. Before loading the lambs the herder of the drop band takes a piece of blue chalk and marks every lamb and ewe which belong together alike. All kinds of marks are used and this way it is very easy for three or four days to find the ewe and lamb which belong together. This is done in case there should be anything wrong with the ewe or lamb after they are brought home.

After marking the ewes and lambs they are loaded into the wagon and conveyed home. There a good man is awaiting them, who shears the udder of

every ewe and puts the lambs and ewes in single pens, each ewe and lamb together, as can be easily seen by the marks. If there is a ewe which won't own her lamb good, she and her offspring are put in one of the small single pens. The small size of the pens is for preventing the ewe from turning around and fighting the lamb. The lambs which are all right are taken every twelve hours out of the single pens and put in a small lamb band of about 20 or 25 lambs, of which we have sometimes three or four around the place. After they have been in this small band three or four days they are put in a bigger one and after about a week they are put in the big lamb band. If you put the lambs in single pens and afterward in small bands you can see at a glance if there is anything wrong with the ewe or lamb. If there is anything wrong, that the ewe won't own her lamb or she is sick, getting a swelled udder or anything in that line, the ewe and lamb are retained and watched until everything is all right. If there are any twins coming they will be retained and marked with sheep paint, each mother and twins, the same mark, and kept in the small lamb band. In case a lamb should die, which happens quite often, we can fall back on the twins and take one of them and put it with the ewe that lost her lamb, but always give the foster mother the strongest lamb. We found that the best thing to do in this case, if the lamb is coming dead, is to take the afterbirth and rub it all over the twin lamb and put the lamb with his stepmother in one of the small pens where she can't fight very much, and watch her closely. Sometimes it will take two or three days before the ewe will get well acquainted with the lamb. If the lamb that died is a few days old, or older, we skin the lamb just like a muskrat and pull the pelt over the lamb we want to put with the ewe, and with a little attention and care it won't take very long and the ewe won't know the difference. At night we always put the lambs in a good shed with a board roof, and this way we always lamb from 80 to 95 per cent.

Last year it was very wet and cold, and as the ewes were out in the rain every day for feed they would come home wet, and the drippings of the wool would make the ground in the shed very dirty and muddy. We couldn't help ourselves and put the lamb band on the south side of a steep hill, where the ground was dry and the shelter was good, and the little ones would huddle close to their mothers and keep warm and dry, this way securing dry sleeping ground for them. We had to change the corral every night and that way secured a crop of 85 per cent, while lots of sheepmen hauled out the dead lambs by the wagon load from their dry sheds.

When the lambs are about from ten to fourteen days old we castrate and dock. Everything in the shed is cleaned out, new bedding put in, and the lambs are separated. We generally perform this operation in the evening, and we find out that the losses amount to almost nothing if the lambs are kept quiet and clean for about ten or twelve hours after the operation. We castrate the old way, one man holding the lamb, the other one cutting the scrotum with a sharp sheep shear, dipped previously in a solution of carbolic acid, and the shears should be dipped in the solution before every operation. After rubbing the scrotum the third man pulls the testicles with his teeth, and this way we very seldom lose a lamb. We dock at the same time, cutting the tail with a sharp butcher knife dipped in the same solution as the shears and always kept clean. At the same time the lambs are earmarked and branded.

The earmarks of the wether lambs must be different from the marks on the ewe lambs and the ewe lambs must have a different mark every year to tell their age if you are cutting them out. This is the way we conduct our lambing, and we can say up to this year we never had failure or very heavy losses. Hoping that we will have a good lambing this year and wishing your valuable paper success.—By Geo. Keerl, In American Sheep Breeder.

CONFERENCE REGARDING TREATMENT FOR HOG COLERA

A conference of representatives of the United States Department of Agriculture and of the agricultural experiment stations of several States to consider plans for supplying serum for the prevention and treatment of hog cholera was held at Ames, Iowa, on May 28. The Department will be represented by Secretary of Agriculture James Wilson, Dr. A. D. Melvin, Chief of the Bureau of Animal Industry, and Dr. M. Dorset, Chief of the Biochemic Division of that Bureau, and invitations had been extended by the Department to the experiment stations of a number of States convenient to the place of meeting to send representatives. The conference took place on a farm which has been used by the Bureau of Animal Industry for experimental work with hog cholera for several years.

As the culmination of many years of scientific experimental work the Bureau has developed a method of treatment which is effective in saving a high percentage of hogs in affected herds. This method has been tested in field experiments on a large scale and under practical conditions, and the Bureau's results have been confirmed by experiments by the Missouri and Minnesota

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experiment stations with serum furnished by the Bureau. As examples of the effectiveness of the treatment, it is stated that in a number of herds which were treated and afterwards exposed to the contagion of hog cholera, a portion of each herd being left untreated as a check on the results, only 7 per cent of the treated animals died, while the loss among the untreated hogs was 64 per cent. In herds which had been exposed to the disease but were not sick at time of treatment, 4½ per cent of the treated and 89 per cent of the untreated animals died. In herds in which the disease had already broken out before treatment began, the loss among treated hogs was 13 per cent and among untreated hogs 74 per cent.

In order to make the treatment available for general use it is necessary that some steps should be taken for supplying the serum to hog raisers. The Department of Agriculture does not wish to attempt the tremendous undertaking of preparing serum for the whole country, Secretary Wilson's view being that the problem can best be handled by the several States taking it up thru their agricultural experiment stations and arranging to furnish the serum to their own citizens. It is to consider this subject that the gathering at Ames was called. The representatives of the experiment stations will there be given an opportunity to observe in actual operation the method of producing the serum and applying the treatment. If the object of the conference is successfully carried out this will mean a long step toward relieving the farmers of the country from what has been a source of heavy loss for many years.

THE THIRD ANNUAL DAIRY SHOW WILL BE HELD AT CHICAGO AND IN THE COLISEUM, DECEMBER 2ND TO 10TH INCLUSIVE.

The time and place for holding the Third Annual Dairy Exhibition was given much consideration. The exhibitors of machinery prefer the winter months for displaying their goods and the exhibitors of live stock would like to have the Dairy Show held early in October or at the close of the State Fair season. The officers being anxious to please both the cattle and machinery exhibitors, brought this matter before the stockholders at the regular annual meeting and discussed very thoroly the most suitable time for holding the show. It was finally decided to hold it not later than December 15th; the exact dates and place was left to the executive committee.

It is desired to make this Dairy Show a strong representative of all dairy interests, to bring together dairymen, butter and cheese makers, farmers and

manufacturers of dairy products from all parts of the country, for educational purposes; also to present at this gathering the best and most up-to-date makes of dairy machinery, and to show choice herds of cattle representing all the different dairy breeds; in fact, it is desired to make the occasion the big event of the year for dairying, and to so exhibit the different branches of the dairy industry that the people will realize the importance and magnitude of this great industry.

The purpose is to make this exhibition of cattle and machinery something more than a show. It is the purpose to make it a strong educational affair where questions of National import may be discussed and plans made for a greater development of all dairy interests. The first two shows were a success and and it is the desire to make the coming one better, bigger and more instructive.

All communications should be addressed to the National Dairy Show Association, 154 Washington St., Room 307, Chicago, Ill.

LATEST MARKET REPORTS

By W. R. Ingram, Mgr. Union Stock Yards, So. St. Paul, Minn.

Jan. 1 08 to date 167884 678944 100287
do. last yr. 133903 526133 78330

34181 152811 21957

Cattle

Steers good to choice	\$6.00-6.75
Cows heifers good to choice	4.00-5.00
Cutter Cows	2.50-2.75
Bologna bulls	2.50-2.75
Veal calves common	1.50-3.00
Stock & Feeding bulls	2.25-2.75
Grass fed steers	4.00-5.00
Steers fair to good	\$5.00-5.75
Cows heifers fair to good	3.50-4.00
Canner Cows	1.75-2.25
Veal calves good to choice	3.75-5.25
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Good to choice stock steers	2.50-3.25
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	Price range	Bulk range
Wednesday	\$6.30-6.55	\$6.40-6.45
Thursday	6.40-6.55	6.50-6.60
Friday	6.50-6.70	6.55-6.60
Saturday	6.40-6.65	6.55-6.60
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Tuesday	6.25-6.30	6.30-6.40
Wednesday	6.30-6.50	6.40-6.45

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Genuine spring lambs	\$6.00-6.25
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Wethers good to choice	4.00-4.35
Bucks	2.00-3.00

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F. J. Dickerson, Medford, N. D.
James O'Hara, Lanesboro, Minn.
D. J. McLean, Cokato, Minn.
John Donnelly, Grafton, N. D.
N. P. Clarke, St. Cloud, Minn.
S. Fletcher, Matteson, N. D.
A. C. Gallup, Fairmount, N. D.
Frank Hammond, Bismarck, N. D.
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THE GRIGGS COUNTY FAIR AT COOPERTOWN, JULY 3D AND 4TH

The Griggs County Fair Association held their ninth annual fair on the 3rd and 4th of July. From the standpoint of attendance it was one of the most successful ever held. This is one of the oldest fairs in the state and it has done a great deal to encourage the production of better live stock and general agriculture in the county and those adjoining. The main feature of this fair has always been the excellence of its live stock exhibit; due partially to the fact that this county and those adjoining are the centre of the best live stock raising section of the state. The live stock exhibit at this fair has surpassed the exhibits that were shown at the state fair until possibly the last two years. The premiums and classification offered have been fully equal to those at the state which in part accounts for the good exhibit that it has attracted.

Practically no amusements outside of the horse races and the baseball games have been tolerated; an exception to the management of most fairs. The people have attended not expecting to be amused wholly, but to derive some educational benefit from the exhibits of live stock in particular.

This fair has done remarkably well in making it a financial success by restricting fakers, etc. It shows that it is possible to run a fair devoted principally to educational features.

The management however have not encouraged nor made provision for an exhibit of farm crops such as the cereals etc. The exhibit of art and women's department are lacking; as a result there is much missing to make it a fair as educational as it could be made.

The Live Stock Exhibit

The management this year found it necessary to reduce the premiums offered because of some reverses last year. For that reason the live stock show was not as large as in former years. They promise, however, if this year's attendance is good to approach former premiums. The Shorthorn herds of S. Fletcher, Matteson and W. W. Brown, Amenia were missing. The Aberdeen Angus herd of Frank Sanford Rogers was also absent. These exhibitors have been showing there for the past few years.

The Horse Show

This is a Clydesdale centre; for that reason the Clydesdales exceeded the other breeds in numbers, and the voice of the canny Scot is a common thing at the Cooperstown fair. Donald Campbell of Hannaford as usual was the leading exhibitor of Clydesdales altho he did not show as many as formally be-

cause he has sold very low. The Langdon Farm, Hannaford and A. J. McInnes, Dazey were the principal exhibitors.

In the age Stallion class Prince Punctual owned by Donald Campbell stood at the head of the class and the Langdon Farm's Paymaster stood second. Both horses are excellent representatives of the breed. Prince Punctual was brought into the state this winter and he is a horse with many prizes to his credit; won at the leading state fairs of this country and at the International Live Stock Show at Chicago. There was no competition in the three-year-old stallion class to A. J. McInnes' Young Sir Hildebrand, a very fine horse and a second Sir Hildebrand in nearly every respect. In the aged mare class there was no entry against Donald Campbell's. Orissa Beau, an imported mare sired by Sorby Boy, a son of Baron's Pride. This mare is a top notcher and possibly the best mare of the breed ever brought into the state unless it is her mate the three-year old mare Bessie Sorby sired by the same horse. She was first in her class against three other mares. The second prize was won by Lady Hunter an imported mare owned by James Beathe, Hannaford; the third by Judy owned by Donald Campbell and the fourth by Thelma owned by John Parks, Finley. A. J. McInnes had no competition on a very promising yearling stallion. Prince Punctual was made Champion Stallion and Orissa Beau Champion mare.

Donald Campbell offered a special prize consisting of a handsome silver cup for the best colt any age sired by Sir Hildebrand. This cup was hotly contested for by three grades and three pure breds. The cup was awarded to

the yearling pure bred mare Nustress McGregor owned by the Langdon Farm. She was also first in the yearling mare class and could show anywhere in hot company.

The Show of Percherons was not large but the quality good. J. G. Wells & Sons, Hannaford won first in the aged stallion class and championship with an exceedingly good horse. This horse was also Champion Stallion at this fair last year. Halland Bros. of Hannaford exhibited a very good three-year-old horse. There was in addition one aged mare shown, but the writer failed to get the name of the owner. Several very good mares of this breed are owned in the vicinity of Cooperstown that were shipped in recently but the owners neglected to bring them in.

Several very good grades were shown but there should have been a larger

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We have for sale several choice spring pigs sired by "Giant Perfection" No. 3477, a grandson of Chief Perfection, the 2nd, the greatest hog the Poland China breed has ever produced. **CENTER LANE STOCK FARM,** Kenmare, North Dakota

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200 HEAD REGISTERED ANGUS CATTLE—Calves, yearlings, bulls and cows of the best breeding and lowest prices.

150 SHETLAND PONIES AND GRADES—Any color, size or weight.

300 ANGORA GOATS—Kids, billies and nannies.

250 REGISTERED HOGS—Duroc Jersey, Improved Yorkshire, Hampshire, Improved Chester White and Poland China. Bred gilts and young pigs.

5000 HEAD POULTRY—All varieties: Rocks, Wyandottes, Leghorns, Reds, Brahmas, Orpingtons, Houdans, Minorcas, Games, Javas, Hamburgs and Bantams.

GEES—Toulouse, Embden, Buff, Chinese, African and Canadian-wild.

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DUCKS—Pekin, Muscovy, Wild Mallard, Indian Runner and Rouen.

PEA FOWLS, PHEASANTS, PEARL AND WHITE GUINEAS, FANTAIL PIGEONS—Birds and eggs from above varieties. Some choice cockerels. Baby chicks one day old.

RABBITS, HARES, GUINEA PIGS, SQUIRRELS, COONS, ANGORA CATS, WOLF, FOX AND RABBIT HOUNDS. COLLIE DOGS.

Write us for complete price list of varieties. Remember we won 90 per cent of the Blue Ribbons the last two years at the State Fairs. Order your eggs for hatching, poultry and stock of

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ENVILLA STOCK FARM,
Cogswell, N. D.

number for there are many very creditable ones in this section.

The Cattle Exhibit

The Short-horn exhibitors were E. C. Butler, Cooperstown and Geo. Pratt. Mr. Butler had nearly everything his way for Mr. Pratt only showed one bull. The Greenview herd is looking well and it will be heard from later on this year.

The only Aberdeen Angus exhibitor was Geo. McFarland of Valley City. This herd is also in fine bloom and there many top notchers in it. The competition in the Hereford classes was confined to the herds of J. G. Mills & Sons, Hannaford and A. J. McInnes, Dazey. The prizes were about equally shared by each exhibitor, considering the number exhibited by each. J. G. Mills & Sons showed a fuller classification.

The horses were judged by Prof. W. B. Richards of the Agricultural College and the cattle by Prof. J. H. Shepherd. The judging was very satisfactory to all the exhibitors.

INTERSTATE SHIPMENT OF TUBERCULOUS ANIMALS PROHIBITED

United States Department of Agriculture,
Bureau of Animal Industry,
Washington, D. C.

The measures being taken in several states for the suppression of tuberculosis in cattle have led to inquiries as to why the United States Department of Agriculture does not permit the interstate shipment of tuberculous animals, when cattle from the Texas fever district are allowed to be shipped under certain restrictions. The reason is found in the following extract from the act of Congress of May 29, 1884, which prohibits the interstate movements of animals affected with a contagious disease but makes a specific exception in favor of animals from the Texas fever area:

"Sec. 6. That no railroad company within the United States, or the owners or masters of any steam or sailing or other vessel or boat, shall receive for transportation or transport, from one state or territory to another, or from any state into the district of Columbia, for from the district into any state, any live stock affected with any contagious, infectious, or communicable disease, and especially the disease known as pleuro-pneumonia; nor shall any person, company, or corporation deliver for such transportation to any railroad company, or master or owner of any boat or vessel, any live stock, knowing them to be affected with any contagious, infectious, or communicable disease; nor shall any person, company, or corporation drive on foot or transport in private convey-

ance from one state or territory to another, or from any state into the District of Columbia, or from the District into any state, any live stock, knowing them to be affected with any contagious, infectious, or communicable disease, and especially the disease known as pleuro-pneumonia: Provided, what the so-called splenic or Texas fever shall not be considered a contagious, infectious, or communicable disease within the meaning of sections four, five, six, and seven of this act, as to cattle being transported by rail to market for slaughter, when the same are unloaded only to be fed and watered in lots on the way thereto."

Commenting on this law and the inquiries received by him, Dr. A. D. Melvin, Chief of the Bureau of Animal Industry, says:

"It was evidently the opinion of Congress that as cattle from the Texas fever district came from a restricted area and traveled over rather definite routes and the principal markets were limited, an exception could safely be made under certain conditions. It appears, however, that it was also the opinion of Congress that it was dangerous to the live stock interests to permit the shipment of animals affected with any other contagious, infectious, or communicable disease, and this I believe to be good law.

"Tuberculosis is pretty generally distributed thruout the United States, altho perhaps existing to a greater extent in some sections than others, and shipments of cattle are frequently made from practically all portions of the country. To supervise the shipment and insure the proper disposal of tuberculous animals and to secure the thoro disinfection of railroad cars, chutes, etc., would be an undertaking of much greater magnitude and difficulty than is the case with cattle from the Texas fever area. It would therefore seem to me both impracticable and unwise to permit the interstate shipment of animals affected with tuberculosis, even if the law did not prohibit this. Recent investigations regarding tuberculosis have shown very clearly that it is much more contagious than was formerly supposed.

"As a national economic measure, I doubt the advisability, even if it were possible to do so, of permitting the large slaughtering centers to become the dumping ground for diseased animals from all over the country. While no doubt these centers can take care of the diseased animals that would come to them in the general course of trade, it is my opinion that to make them a general dumping ground would not improve the reputation of our meat products abroad.

"Practically all states except a few in the West and South have slaughtering

Bosard Farming Company.

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IN SERVICE:
Lottie Melia Ann's
King. Several sons
of this bull for sale.

Other registered bulls
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CHARMER LONG-
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boar for sale.

SIRE: Melia Ann's King, the Famous \$15,000 bull.

DAM: Lottie Melia Ann, the cow with a record of 20 lbs., 2 oz. butter in seven days, 9250 lbs. milk in one year, 23120 lbs. milk in three years and dam of three tested daughters in the charm list.

SIRE: Premier Longfellow, the World's Grand Champion Boar.

DAM: Lee's Charmer Belle 3rd. No. 92797.

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FOR SALE

5 Angus Bulls
10 Oxford Down Ram Lambs
100 White Plymouth Rock Cockerels
WILLOWBANK FARM
Eastgate Bros., Larimore, N. D.

centers where Federal inspection is maintained, and these centers should be able to take care of tuberculous animals if it is desired to slaughter them under Federal inspection, without the necessity for interstate shipment."

Several months ago the Secretary of Agriculture issued a circular calling attention to the provision of law above quoted and giving notice that it would be enforced against interstate shipment of cattle and hogs affected with tuberculosis and of horses and other animals affected with glanders.

THE DAIRY COW

Whence came the Dairy Cow?

She is the product of an evolution and the epitome of thrift. The four great dairy breeds are likewise typical of the races of men who had mainly to do with their creation—the Scots, the Dutch and the Channel Islanders. They have proved their adaptability to conditions on this continent and responded marvelously to the enterprising intelligence of the Canadian and the American.

The cow in her natural condition gave no more milk than the calf could take, and it was well it was so, as otherwise udder trouble would frequently develop and often death from inflammation or congestion. That the milking functions in cows fails to improve where the calves do the milking is evident from observations under the ranching system. The same fact is noticeable under the nursery system in pure-bred herds of any breed.

The milking propensity, irrational as it may appear, has been most highly developed by artificial rather than by natural means.

Milking by hand at regular stated intervals has evidently improved the producing capacity of the cows to a much greater extent than has the more frequent and irregular calls of the calf when left alone with the dam or even when nursed at regular intervals. This may be, and doubtless is, partly due to the fact that under hand-milking the defective milking cows are more readily recognized and more quickly discarded by the weeding out process. But it remains an indisputable fact that heavy milking capacity in cows has been most successfully developed thru hand milking, together with selection, mating the cows with bulls bred from superior producing dams, and reserving the heifer calves from the best milking cows to replenish and improve the herd and the breed. That it is by this system the evolution of the Ayrshire breed in Scotland, the Holstein in Holland and class herds of the principal dairy breeds the Jersey and Guernsey on the Islands has been effected, cannot be gainsaid.

The fact speaks for itself. And these breeds, where well managed on this continent, have not deteriorated in producing capacity, but rather improved, and the highest official records of milk and butter production by individual cows in history having been recorded in America.

The size and shape of the udder and the size and placing of the teats are cardinal points in the make-up of the ideal dairy cow, and these, together with a robust constitution and capacious stomach, enabling her to successfully work up a large amount of fodder and concentrated foods into milk, constitute what is and will continue to be the most profitable animal on earth, since milk and its productions are increasingly in demand as towns and cities grow and a larger proportion of the people in these times of prosperity are able to afford more of this most wholesome and nourishing of foods. We are provided with high class breed from which seed stock may be secured, so that farmers devoting their attention

to dairying as a specialty may, at moderate expense, improve the productive capacity of their herds by introducing the blood that has proved prepotent in pure-bred herds in grading up to improved work at the pail. And by adopting the system of keeping records of the production of their cows all may discover the cows which are doing the best year-round work and may get rid of those which are not paying a profit.

Those who prefer a dual-purpose class of cattle may also improve the milking function in their cows by the same process, tho to a probably lesser degree on the average. By using bulls that are sons of superior milking cows to mate with daughters of cows of the same class, and feeding for growth instead of for fat, an average percentage of the offspring will doubtless prove profitable in the dairy and make good beef animals when fed off for the market, while their male produce and the least promising heifers in the herd will grow rapidly into first-class beeves.—The Canadian Farmer's Advocate.

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That's what the De Laval shops have been doing since early in February, from seven o'clock in the morning until nine o'clock at night, with every available man, and new tools being added every week; while the material supplying shops have been running double force all day and all night.

That's the record of the De Laval shops in the effort to meet the doubled demand from every section for the new Improved 1908 DE LAVAL machines.

That's the showing which stands out alone and by itself, against every shop and every industry in America for 1908.

There's certainly a very good reason for it, and if you need a separator—either the first one or a good one in place of a poor one—it's up to you to find it.

The improved machine itself tell the story best—a catalogue to be had for the asking is the next best thing.

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By MRS. B. F. WILCOXON.

DISEASES OF POULTRY

We often hear it stated that chicks are out of danger practically when they are past three months old, which is true in one sense of the word. There are few diseases that are liable to attack them from the later part of July to November, if the autumn continues warm. A great many people do not pay any attention to their turkeys at this time of the year because they are out of sight nearly all day and some do not notice anything wrong until they begin to die. Cholera is not very common among poultry, while with the greater number of diseases to which they are subject one symptom of cholera is present usually, that of diarrhea; so do not rush to the conclusion that cholera is present every time one takes sick altho even this serious disease is not impossible to check.

I have always made it a point to hold a post mortem examination, in case fowls die and I am not certain as to the cause of death.

Some say, "Oh, I could not do that." Yes, but if you would, it would mean more dollars to you. It is not an impossibility. There are worse things in the poultry business than this. A turkey can have different diseases and still the symptoms are about the same. The system of a turkey is generally amenable to the action of proper remedies. There is a disease that prevails in the turkey raising regions of New England and I am inclined to believe extends thru our own part of the country and quite probably exists under certain conditions wherever turkeys are raised.

I am referring to the so-called "black head," an infectious disease. The prolonged part of the bowel is first affected, becoming thickened, enlarged and full of sores. The liver next becomes covered with round yellow patches. The symptoms are diarrhea, emaciation, great thirst and the purplish or "black head" which gives the name.

A turkey sick of anything else looks about the same. This disease is infectious and when you see a sick turkey it is time for you to get busy.

To examine a dead bird will throw much light on the subject. It would be of much benefit if we could have the opinion of others regarding these diseases which hurry off a great many of the turkeys to an untimely grave, and I am sure that the editor will give us space for discussion. My remedy for sick turkeys has always been one teaspoonful of

sulphuric acid to one gallon of water. Give no other water to drink. I go to the druggist and get calomel tablets, and give to turkeys the same as to human beings.

Many poultts die of this mysterious disease. It is being investigated by the U. S. Dept. of Animal Industry. It is an acute form of liver trouble and is contagious.

SOME GOOD SIMPLE REMEDIES TO KEEP ON HAND

Turpentine is a good remedy for bruises, inflammation, worms and limber neck.

Bicarbonate of soda aids digestion, and prevents sourness of the crop. It can be fed in the mash. Indigestion in fowls is often taken for cholera. The droppings of cholera patient are yellow and watery, while the evacuations of fowls suffering from indigestion are more of a dark nature.

When the fowl is ailing and has great thirst, it is an indication of fever. A few drops of aconite in the drinking water will very much assist.

A Frenchman says that the use of pounded garlic with the usual food has been made to completely eradicate the gapes among pheasants in Europe.

I have never undertaken anything that requires more judgment, perseverance and looking to details than does the poultry business. But it is pleasant work after all if your heart is in it. Somehow there is in it an element of chance that will spur one on to do better in the future than he has in the past. I think the reason it is so profitable is because its requirements are so exacting and few people are willing to pay the price of success.

It is necessary that the coops in which the chicks are reared should be moved frequently to fresh ground. This should be done every second day without fail. It is not necessary to shift them more than a few feet at once unless the surrounding ground has become fouled from overcrowding. The evils of allowing a coop to stand too long in one place are that the ground becomes filthy and the chickens consequently suffer in health.

Chickens that are reared in the fields should be provided with shelter. It frequently happens that young chicks

are caught in a sudden shower, and if it is severe it may drown or otherwise kill them outright. When a rain comes on suddenly chicks seem to lose their heads and run in most any direction and great losses thus occur.

The money making value of poultry is becoming better understood each year by farmers generally and the industry is growing rapidly in nearly every state. There is yet great room for expansion. Poultry returns a greater interest on the money invested than any other livestock on the place. It is certainly worthy of more attention than has generally been paid it in the past. There are two great factors in poultry raising which interfere most seriously with the profits of the business. These are disease and vermin. Flocks must be free from them and have comfortable and sanitary quarters if they are expected to make money for their owners.

One of the best ways of supplying groundbone or bonemeal is to keep it in a box in a place where the fowls can help themselves. This will be better than putting it in their feed.

It is a good rule to market all stock just as soon as they can be got ready. Poultry is no exception to the rule. Chickens, ducks, turkeys, and geese, should be rapidly fattened and quickly sold.

In the winter time dried alfalfa and clover hay, scalded, will help amazingly in egg production in winter. It will pay to lay in a good supply each fall for the following winter's use.

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From the best laying strains of Thorough-bred poultry, Barred and White Rock eggs, White Partridge and Golden Wyandotte eggs, R. I. Red eggs, Red cap eggs and S. C. Black Minorcas eggs at 75 cents per 15, \$2.00 per 45; S. C. White, Brown and Buff Leghorn eggs at 50 cents per 15; \$1.25 per 45. This year's breeders to be sold at half price. Send in your egg order and make me an offer on whatever you want in the above varieties. I know I can please you both in price and quality.

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FROM THE NATION'S CAPITOL

By GUY E. MITCHELL

GREATEST OF FARM BUREAUS

The Bureau of Animal Industry is one of the big institutions of the country. Its work enters into the economy of every farm. It covers the question of the improvement and breeding up of all farm animals—horses, cattle, sheep, hogs, poultry, etc.; also the diseases which affect them, the inter-state movements of diseased animals and of animal and dairy products, inspection of meats; in fact everything in any way pertaining to livestock on the farm and its consumption in the city. The annual federal appropriation for the bureau's work is a big one, for the institution is the most important branch of the Department of Agriculture. Still, many single instances of the work of the bureau result each year in saving to the American people more than sufficient to pay the cost of the bureau's maintenance since the day of its organization. The annual loss from Texas fever in cattle is estimated as high as \$50,000,000 a year; but were it not for the stringent regulations of the Bureau of Animal Industry regarding the shipments of affected cattle the loss would undoubtedly be doubled and trebled.

Take as another single example of the bureau's work, which is now merely in the experimental stage, and of which but little is generally known—a preventive treatment for hog cholera.

The Scourge of the Hog Grower

Once started in a locality, hog cholera, is likely to sweep away the majority of the hogs. Hogs have made the fortunes of many farmers; hog cholera has ruined many others. It was found from statistics compiled some years ago that in Iowa about 85% of the hogs were destroyed in droves attacked by the disease. The Bureau of Animal Industry went to work to find a serum which would render hogs immune. At that time two kinds of the disease were known—hog cholera and swine plague. In a series of experiments the use of the government serum rendered about 85% of the hogs immune. In other cases it had practically no effect. Further investigation by the scientists of the bureau discovered a third distinct type of cholera. All three—hog cholera, swine plague and the new disease are due to blood-destroying bacteria. A new serum was formulated, made from the blood of immune hogs, combined with that from diseased animals. This was patented by the Department in the interests of the farmer, and is believed to

be an absolutely effective hog cholera preventive.

Interview with Chief Melvin

"We have experimented with this new serum" said Dr. A. D. Melvin, the chief of the Bureau of Animal Industry, "and it is most promising. It is a little too early to declare that it is infallible, and it is in no sense a cure, where the hogs already have the disease. But it seems to be a sure preventive and where any of the three hog cholera diseases breaks out in a community, the idea would be to inoculate all the hogs in the neighborhood. This is not such a great undertaking if done as soon as the pigs are



Dr. A. D. Melvin

littered. From our experiments thus far it appears to absolutely immunize the animals treated. The bureau is co-operating with the various experiment stations for the manufacture of the serum and further experiments with the treatment, with a view to stamping out hog cholera in any locality the minute it appears."

"You are also doing something along sanitary milk lines, are you not, Dr. Melvin?"

"Yes, we have been working here in Washington in conjunction with the Marine Hospital Service and the District of Columbia authorities with a view to securing pure milk for Washington. Our inspectors are also cooperating with the authorities in a number of the larger cities of the country. Our position in this matter is largely advisory. We can regulate an interstate shipment of tuber-

culous cows but we cannot of diseased milk. We have already made two specific recommendations; that the milk from strictly non-tuberculous herds should be kept in one class and that the milk from herds which cannot be absolutely so classed should be pasteurized."

The live-stock situation in the country at large is good, is it not?" was asked.

"Never better," said Dr. Melvin, "north, east, south and west. The figures for the United States are something enormous.

Prosperity in Live-Stock Industry

"In my last report I made some mention of the values. The total value of American live-stock reaches the unthinkable sum of nearly four and a half billion dollars. Such big figures are not very interesting, but the individual stock grower is doing all right. Let us analyze the increase in values of different farm animals during the past year, to say nothing of that during the past ten years. June 1st, a year ago the average value of horses was \$95.51 per head, mules \$112.16 per head, milch cows, \$31 per head, other cattle, \$17.10, sheep \$3.88 swine, \$7.62. Now compared with the figures for 1906 there is a sharp increase in every case. Horses have increased \$12.79 per head, mules, \$13.85 per head, milch cows, \$1.56, other cattle, \$1.25, sheep, \$.30 and swine \$1.44. The total of this increase in values of farm animals amounts to hundreds of millions of dollars in one year. If you go back ten years, the increase in values is up in the billions."

New Edition of Diseases of the Horse

Of all the publications of the government, "Diseases of the Horse" published by the Department of Agriculture, has been perhaps the most sought after by farmers. When the first edition became exhausted some 15 years or more ago—the copies of this edition went like hot-cakes—the book sold at second-hand book stores for 75 cents and \$1 a volume. It is a book of over 500 pages. Several additional editions have been printed to meet the demand and now a new and revised edition of 250,000 copies has just been ordered. So, if you want a copy, get in your request to your Member of Congress.

Seed Soaking in Liquid Manure

Many people soak seeds before planting; it is generally believed to be a good practice. There is danger, however, in soaking seeds in liquid manure. Moreover, government experiments show that the increased yield from manurial soaking is in most cases no greater than that resulting from treatment with pure water. Seed soaked in one per cent solution of nitrate of soda was in most cases injuriously affected. Soaking beet seed in liquid manure reduced the d -

velopment of the root, but produced a marked increase in the development of the leaf. Coating the seed with any strong solution usually interfered with the process of germination.

Fall Planting of Trees

Fall is presumed to be the best time to set shade as well as fruit trees, altho there are some strong advocates of spring planting. In either event it is a certain mistake to expect that trees demand no attention after planting. If it is expected that the tree is to grow rapidly and produce either fruit or shade in a short time, it needs good cultivation as well as any other crop—digging around the trunk three or four times a season, or if the trees are in rows, shallow plowing and cultivating. It should be remembered that trees make practically all their growth before the middle of summer and the constant stirring of the surface soil in the spring, provides aeration and affords the roots the use of much moisture which would otherwise evaporate.

Value of School Garden Education

The school garden is a brand new institution; but it has come to stay; neither should it be scoffed at as a fad, a hobby of some well intentioned people who believe that we are becoming a nation of shopkeepers instead of agricultural producers. It is true that the school garden, *per se*, is intended more as a first line of education in rural subjects, for village and city children, rather than for genuine farm boys and girls; but it is nevertheless, the first step in the teaching about plants and crops which may lead the boys and girls back to the farm, instead of away from it. Many a man, having made a competency out of his farm, moves into the village, and is disgusted because his town-raised children evince no interest in the fine garden which he grows each year. Their thoughts seem to turn entirely toward the cities. They are taught, in too many of our schools, these branches which lead them away from the land. The movement for a reasonable proportion of agricultural education in the country schools is gaining considerable headway; but the first step in this direction—when the children are in the primary department—is the school garden. Every healthy boy and girl likes to get away from the school desk and have a little outing. Such is the "work" of the school garden. It is pleasantly looked forward to to break up the monotony of class recitations. The school garden *work, out in* the open air immediately becomes regarded as a sort of recess. Then comes the spirit of competitive effort among the children, a struggle for the best little plot of garden, and the

first thing we know the youngsters are enthusiastic over what they can grow, and it is not unusual that the boy in short pants undertakes to instruct his old father farmer as to the best methods of trellising tomatoes or tells his mother that a good mulch is the ideal treatment for sweet peas before the early hot weather sets in.

Great progress in school garden education has been made in all the large cities, within the past few years—New York, Chicago, Philadelphia, Boston, Cleveland, Los Angeles, St. Louis, Washington. Gardens are numbered by the score. No definite figures are at hand; but it is estimated that there are over ten thousand well regulated school gardens in the United States, whereas, ten years ago there were not more than a hundred. If the next ten years see a like increase of the school garden movement, it will have become a highly important factor in the start toward a comprehensive rural education for the coming generation. It will mean, necessarily a corresponding advance in the higher branches of the art of farming.

Dodder, A Farm Pest

Dodder is the worst, the most widely distributed and the most rapidly increasing plant parasite which we have in the United States. In Europe it is looked upon by farmers with such fear that dodder infested seed is practically unsalable.

Whence comes dodder? Many people cannot tell you. Of course, it does not spring up spontaneously, as was once supposed; it seeds and germinates the same as any other plant. But as soon as it finds some "host" plant to cling to, the lower part dies and vanishes, and it becomes a parasite. When it shows itself to the farmer, on his clover or flax or alfalfa, it has no connection with the soil; it depends entirely upon its host plant.

"The dodder plant, especially as a menace to clover and alfalfa culture is becoming more and more prevalent throughout the country and is everywhere commanding attention from farmers," says F. H. Hillman, assistant botanist of the Seed Laboratory of the Department of Agriculture, in the advance sheets of Farmers' Bulletin 306, which will be ready for free distribution next month.

Dodder has a preference for plants whose lives it saps, including most of the leguminous crops; but it principally infests the different kinds of clovers, alfalfa and flax. Cheap clover seed may always be looked upon with suspicion, as it is likely to contain dodder seed. Mr. Hillman's bulletin gives an illustration of a clover and grass field almost completely destroyed by dodder.

There are six principal kinds of dodder in this country but the seed of all can be easily designated with the help of a small magnifying glass. Mr. Hillman's advice is to thoroly inspect all clover seed purchases, for dodder seed, and if it is found in any quantity, reject the seed. But if the dodder gets past the seeding period and appears in the clover field, it should certainly be destroyed early, by removal or burning (a small tendril will start a new plant) and thus prevent reseeding. Most of the species of dodder seed can be removed from clover seed by a 20-mesh screen, made of No. 30 wire.

The Friendly "Redwing."

In considering the value of birds on the farm, the fact should not be lost sight of that while many species do some actual visible harm, they may also, day by day, be doing a vast amount of good, quite unbeknown to the farmer. A man watches his newly seeded wheat or corn; if he sees birds alighting in the field he may take the pains to stop and carefully watch to ascertain whether they are pulling up the seed. If he finds they are doing so, he naturally condemns the whole tribe, absolutely. Not one man in a hundred would think to inquire whether this was a regular habit of the bird—to eat wheat—or whether it did not as a matter of fact, much prefer certain noxious weed seeds, with a considerable proportion of destructive beetles and other insects, simply dropping into the wheat field now and then and pulling up a few grains.

THE YAPP FAMILY AND THEIR FRIENDS

Funniest Book of the Season.

Jack England's humor is like a current from an electric battery, thrilling the entire system and giving one a sense of enjoyment that lingers thru the years.

It was left for Mr. England to create THE YAPP FAMILY AND THEIR FRIENDS and open up a river—no, an ocean of possible wit and wisdom. He tells us in his latest book of "Ananias, Sapphira & Co., Ltd.," "Getting Back at Rip," makes us acquainted with "Long Big and Long Little," writes the "Autobiography of Z. Yapp," and declares that "My Middle Brother Makes Good." With him we cruise as guests of the Special Squadron for the Pacific 13,000 miles, and get glimpses of life on big battleships and among strange peoples.

Advance orders for this special autograph edition, bound in cloth with ornamental covers and title, characteristic illustrations, will be filled in order of their receipt if 75 cents per copy is sent direct to the author, Mr. Jack England, Himrods, N. Y. Mention N. D. Farmer.

The Redwing Blackbird is probably a good case in point. He is found all over the U. S.; a very handsome fellow, with bright scarlet epaulets on a glossy black coat. While these birds usually breed in large colonies, the polygamous condition is sometimes found of a single male having a number of wives, each building her own nest and rearing her brood, while her lord and captain of artillery parades around, surveying with pride his large household. Many complaints have been made against the Redwing and several states have placed bounties upon their heads. In a few sections of the country, the bird breeds in great numbers and undoubtedly does damage to crops; but as a rule he appears to be far more beneficial than harmful. An examination of the stomachs of nearly a thousand Redwings by the Biological Survey of the Department of Agriculture, ranging thru an entire year, shows that almost three-quarters of the bird's food is made up of weed seeds, or of insects injurious to agriculture, indicating unmistakably that the bird should be protected. Only 13 per cent of the food consisted of grain while 57 per cent was found to consist of weed seed, such as rag weed, barn grass, smart-weed, etc. That these seeds are preferred to grain is shown by the fact that the birds began to eat them in August, when grain is plentiful, and continued to feed upon them till the middle of spring. Of animal matter, mostly insects, the amount found was 26 per cent, over 10 per cent consisting of harmful beetles, weevils, amounting to 4 per cent of the total year's food were found, but in June, these insects reached 25 per cent of the bird's food. As weevils are among the most harmful insects on the farm, the bird does good work in eating them. The Redwing eats very little fruit, doing practically no harm in the orchard and garden.

Taking Care of the Harness

"There is nothing like leather." But there is nothing like knowing how to keep your leather goods in fine condition, too. Leather is composed of a mass of fine tendrils, intimately interlocked and entwined. When in good, pliable condition, each tendril is capable of much stretching. If allowed to become dry and hard, when the leather is subjected to a severe pull, the tendrils break instead of stretching. But this does not mean that leather boots or harness should be kept soaked with oil or dressing. Elbow grease applied in quantity is better. "All dressings should be applied sparingly" is the sound advice of a big saddlery concern. Black oil should always be used on black harness and not neatsfoot oil, as the latter will draw out the black dye and leave the harness brown. The black harness fats now on

the market make excellent farm harness dressing. They contain the "nourishment" necessary for keeping the harness in good order. But first, all dirt should be washed off with luke warm water and ordinary soap. The black fat should then be applied with a cloth, given a short time to penetrate the leather and then rubbed dry with another cloth. Some make the mistake of oiling without unbuckling the harness. The parts that need nourishment most are under the buckles where the metal causes hardness and brittleness. If people would vary the holes of the harness occasionally it would last much longer.

An objection to neatsfoot oil is that it inclines to wash off the beeswax from the stitches, leaving the bare thread, which then soon breaks.

Most of us are very particular about the source of our well and spring water for our own drinking. How about that consumed by the live stock?

Every apple tree in the orchard should be examined for borers before frost gets into the ground. The knife and the wire method of exterminating these pests is old but it is the surest. Neglect of this duty till spring may cost the orchard a number of valuable trees thru girdling.

An unmixed corn diet for hogs is an extremely unbalanced, one-sided ration. It should be supplemented with fruit or root crops. Hogs can assimilate large

quantities of acid and will thrive on heavy feedings of dropped apples, which perhaps cannot be used profitably for much of anything else.

The celery culturist of the Department of Agriculture, W. R. Beattie, has revised and enlarged his former farmers' bulletin on Celery Culture (now Farmers' Bulletin 282). It contains 32 pages and 16 illustrations and gives popular directions for celery culture, planting, fertilizing, diseases, insect enemies and their control, blanching, storing, etc. In this connection a Mr. W. H. Jenkins had a recent article in a New York journal in which he states that the cost of growing celery on the intensive plan he finds to be \$460 per acre but that the gross receipts are \$1,000 per acre, leaving a net profit of \$540 per acre. A single acre, however, keeps a man pretty busy, along with the chores and other things.

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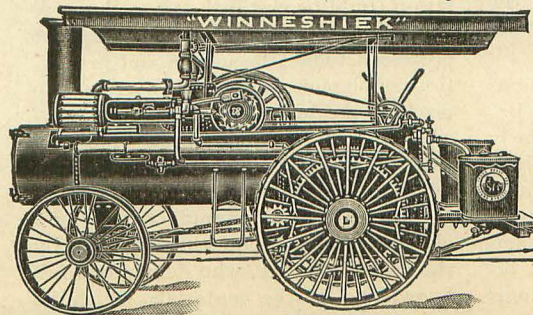
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GOVERNMENT BY INJUNCTION

State lines, says Up-to-Date Farming, are being swiftly obliterated by our courts and our national government. Legislatures may pass laws, but if those laws do not happen to please the corporations of the country they call upon a United States judge who immediately annuls the law by issuing an injunction restraining state officials from executing it. Justice can thus be throttled and the people's will abrogated.

North Carolina passed a 2¼ cent fare law and placed a penalty for its violation. The Southern Railway ignored the law. The railway was fined \$30,000 and two of its officials were jailed just as other law-breakers are treated. United States Judge Pritchard ordered the officials released and issued on injunction ordering the state not to collect the fine, and he threatened to put into jail anyone who tried to execute the law that the people, by their representatives, had made.

Of course the fact that Judge Pritchard was attorney for the Southern Railway before being placed upon the bench would in no way influence his action.

If I expressed a contempt for the judge I might be liable to fine, but he cannot fine any of you for your opinions. I do have a contempt for anyone who is willing to submit to government by injunction.

This case shows very clearly why corporations are so much in favor of government control. As long as corporations control government it is a nice, comfortable way of settling disputes.

DOG MEAT EATEN IN GERMANY

Not only is the flesh of horses and mules eaten in Germany almost as much as in France, says Agricultural Epitome, but also there is a growing consumption of dog meat and in some localities dogs are fattened for market and there are several special places for slaughtering them. The use of dog meat is said to have had its origin in Saxony and there are statistics going as far back as 1869. But on June 3, 1900, a law was passed which authorized the sale and consumption of dog meat all over the German Empire.

The taste for dog meat is reported as extending thruout Silesia and into Bavaria. In Munich dogs are regularly slaughtered and the flesh is sold by low-grade butchers. The Germans, however, declare that they do not buy it in that region and that the demand is confined to the lowest class of Italian laborers. No dog flesh is sold in Berlin as yet.

OILS, PAINTS, AND PAINT PIGMENTS.WILL PURE PAINT LEGISLATION GIVE US
BETTER PAINTS

An Address before the Society for Testing
Materials, at Atlantic City

By Hon. John Dewar, Pittsburg, Pa.

The question at this time to my mind unsolved is what constitutes "Pure Paint"? From among countless formulae relating to pigment and vehicle in combination and otherwise, can we select any one formula today for a pure paint?

Within the last five years there has been more progress in the matter of investigating and ascertaining what should constitute the best paint, than there had been in the previous twenty-five years. With paint and material scientists backed by millions of capital seeking to explore into the mysteries of nature to produce by the aid of the laboratory satisfactory pigment and combinations and with those whose calling it is to combine and practically apply, whose success in business largely depends on producing the best results in covering, appearance and wearing properties, with all these forces busily at work today and with such a diversity of opinion held by manufacturer, chemist and painter as to what constitutes the best paint for the different purposes and conditions, it would be impracticable to proclaim such and such a pure paint, or the only best paint. Let us be honest with ourselves and say the acme has not yet been reached.

Pure paint legislation clearly means a recognition of the right of the Government to determine what materials are fit for use and what are unfit for use, that is, to set up a standard of purity and is therefore sumptuary legislation. Honest paint legislation, however, leaves the art and industry free for improvement, for better use of each and every material, and the discovery of better materials for the making of better paint. It is quite clear that the establishing of standards closes the door to the incentive for progress to betterment of paint and paint materials.

The whole atmosphere of paint legislation could be clarified and made more simple, if manufacturer and painter possessed today the names and proportions of pigment and vehicle necessary to produce the best paint and colors possible. Then the standard or acme would be attained. But until that point has been reached, and it is being sought after by manufacturers and chemists and with no less eagerness by the master painter, who demands a full knowledge of the materials which he purchases so as to enable him to act in-

telligently when observing the results of his labor, a rigid standard cannot be set up. Perfection cannot be attained without having a true knowledge of the materials employed.

Recognizing a very great necessity for reformation in paint and paint materials and seeking to attain that end, the National Paint Manufacturers Association, the Paint, Oil and Varnish Association of the United States and the International Association of Master House Painters and Decorators during the last ten months, met in National convention and practically unanimously approved and adopted a bill which was reported by their joint legislative committees. Fully realizing that the possibilities of paint had not yet been attained and that it was unwise to create a specific standard it was agreed that to insure the protection of painter and public consumer from fraud the following should be a label requirement:

That there shall be shown clearly and distinctly upon the face of the label and in the English language—

(a) The name and residence of the manufacturer of the paint, or of the distributor thereof, or of the party for whom the same is manufactured.

(b) There shall be shown in case of dry colors, colors ground in oil, paste or semipaste paint the true net weight, and in all ready-mixed or ready-for-use paints the true measure in gallons or part thereof.

(c) There shall be shown the name and, with substantial accuracy, the percentage of each ingredient, both solid and liquid, contained therein. In the case of paint other than white paint, where more than one coloring material is used, the several coloring materials may be shown by their combined percentage, in which case it shall be necessary to state the name and, with substantial accuracy, the chemical analysis of each of such constituent materials.

(d) When other than chemically pure colors are used the percentage composition thereof shall also be shown.

That for the purposes of this Act an article shall also be deemed to be improperly labeled—

First. If it be an imitation of or offered for sale under the name of another article.

Second. If the contents of the package as originally put up shall have been removed, in whole or in part, and other contents shall have been placed in such package, or if the package fails to bear a statement on the label of the quantity or proportion of each ingredient contained therein.

Third. If in package form and the contents are not stated plainly and cor-

rectly in terms of net weight or measure on the outside of the package.

Fourth. If the package containing it or its label shall bear any statement, design, or device regarding the ingredients of the substances contained therein which statement, design, or device shall be false and misleading in any particular.

This requirement is found as part of the Dalzell bill, the revised Marshall bill and Heyburn bill.

I quote from a lecture delivered before the students of the Carnegie Technical Institute, Pittsburg, Pa., on "The Effect of the Legislative Reform Movement upon the Work of the Technical Chemist," by Mr. Robert S. Perry, President of one of the largest and most progressive Paint Manufacturing Companies of the country.

"The American public should protect themselves, thru the Federal government in laws which will enforce reasonable and honest representations regarding goods handled in interstate commerce, together with State Laws in harmony therewith. The laws should require the manufacturer to state upon the package of his goods, the essential data indicating the integrity and technical qualities of the goods, the net weight or volume of the package, the technically correct names, which the public will soon learn to recognize, of the essential ingredients and of the essential impurities."

"This will put the buyer on a fair basis for negotiation with the producer. Such a law would not plunder the manufacturer of his legal trade secrets, because that data only which a chemical or physical laboratory could declare to the buyer regarding the contents of the package, need alone be required from the manufacturer, and that data which any one can purchase from a chemist for \$20 is not a trade secret."

"Experience has demonstrated that the manufacturer in thus informing the buyer will immensely aid his own interests. He will cease depending upon unfair methods of profit, which must react upon himself and the morals of his employees. He will perforce devote his entire ability as a producer to the legitimate sources for his profit, better organization, greater economy in process, greater use of technical men in the control of his works."

"The short weight and the mystery in the package are veritable blinders on his eyes and limit his ability."

I hold that the statement on the label simply giving name of different pigments contained in the package is not sufficient. It should specify the quantity of each and every pigment with a substantially correct analysis of same otherwise the door would be left open for the practice of abuses of which the

honest and progressive manufacturer and master painter would be the victims, not to mention the foisting of spurious concoctions on the public consumer under the name of paint or mixed paints.

Notwithstanding the power of the fund at present being solicited from manufacturers and jobbers for the purpose of defeating or restricting legislation and especially that portion of the bill which would insure the honest specification on the label of the contents in the package, to my mind it is as practicable to seek to dam Niagara Falls with bull-rushes as it is to attempt to impede the onward trend of the National legislation requiring the honest labeling of the contents of packages containing paint and paint materials. The progressive manufacturer, the painter and the consuming public demand it and they are clearly within their rights. Therefore it is my judgment the subject of this discussion should read, will the honest labeling of the contents of the package as provided for by the three bills mentioned give us better paints?

Unquestionably the provisions contained in either of these bills will be productive of great good to the purchasing consumer, it will insure him a true knowledge of the pigments and vehicle entering into his paints and colors with honest weights and measures.

The blandishments of the commercial representatives, the attraction of the highly colored and effusively worded poster with which the package is girded will lose their eloquent persuasiveness when confronted by the whole simple story on the formula label in legible English "this package contains so and so" with honest weight and measure.

(To be Concluded.)

A discussion by Professor Ladd at the Annual Meeting of the American Society for Testing Material, at Atlantic City, June 26, '08

The question may well be asked, "What is pure paint"? Is it a paint made and sold for what it is without regard to its composition, so long as the public are informed of the ingredients contained therein? Or, is it a paint made in accordance with some recognized or prescribed standard, such, for instance, as the North Dakota Statutory standard?

The writer believes there is a limit to the kind and amount of certain ingredients which may properly be used in the mixed paint and entitle the paint to be called a "pure paint." Within these limits all paints are pure, so long as they are truthfully labeled and sold for what they are.

If a standard of perfection or ex-

What Will It Do?

This is the question for you to ask when buying paint.

There are too many paints on the market that have no merits except that they sell at a low price or are made of S. P. Lead or Lead and Zinc.

What you want in paint is

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2nd.—COVERING CAPACITY

3rd.—APPEARANCE

4th.—COST PER YEAR TO PROPERLY PROTECT THE SURFACE

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cellence is to be used as the proper criterion by which to judge paints, then, what shall that standard be? Shall it be the North Dakota Statutory standard of white lead and zinc oxide with pure tinting materials, linseed oil and turpentine? Or, shall we find some new combination with properties better adapted to serve as a standard? Or, best of all, shall we make our standard one of excellence in working and wearing qualities without regard to the composition? These are questions presenting themselves to the thoughtful man which must be met in the near future, for the public are aroused and demand a careful and unbiased consideration of the problem. The question, however, before us at the present time is: "Will 'pure paint' legislation give us better paints?"

There is no question but what, as the result of the enforcement of the North Dakota Paint Law, the entire Northwest is now receiving a better grade of paint than formerly. Men who have long been known as selling a cheap, inferior product are now doing much less business than formerly, and many of the questionable practices have been eliminated by manufacturers of paints. The unnecessary water as an adulterant has been squeezed out; mineral driers are less used in place of turpentine; the oil is pure linseed; and the inert material is being given careful consideration. The paint manufacturer and consumer alike are giving thoughtful consideration to paint problems as never before, and good must follow. The master painter is viewing mixed paints from a new standpoint, and with greater favor than ever before. Already, firms, whose statements regarding their paints were of a questionable character, have lost heavily in handlers for their products; and in place of these paints we now find the number of dealers who are handling statutory paints rapidly increasing, and the increase in the sale for this class of paints has been, during the past two years, remarkable. Another noticeable feature is that many firms have materially changed their formulae for many paints, and, in some instances, are now making only statutory paints where such a white base is permissible, and the sales of this class of paints in the west are rapidly increasing; while those who have adhered to the old standard and questionable methods of advertising are losing out. This I am confident is the result not only in North Dakota, but in the surrounding states as well.

If the North Dakota standard is not an improvement over former mixed paints, why are the manufacturers generally adopting it or approaching its standard in states where they are not required to label?

It would be unfair to argue that paint

manufacturers are taking the course of least resistance in direct opposition to their own financial interests and contrary to the experience of years gained thru intimate acquaintance with manufacturer and in the use of paints. It seems more probable that a certain class of competition has forced manufacturers to lower their standards below what was best, and now that reasonable protection is afforded them from the inferior products, the better firms are again raising the standard to correspond with what they believe to be proper, and in so doing they are approaching more nearly to the statutory standard, but not necessarily adopted in all cases.

Publicity is a great educator and corrector of evils, commercial or otherwise.

Paint legislation and the enforcement of paint laws will most certainly give us better paints, and afford needed protection to the honest manufacturer; and drive out largely the cheap dopes handled by catalog houses, department stores, and the paint-man specialist with his false and misleading claims. It will educate the public to know paints better and to study their wearing qualities on different surfaces. This much has already been largely realized in North Dakota, and the people of the state are well repaid for the efforts put forth by them. I predict far greater improvements during the next five years than have been witnessed thus early in the awakening of the public to an appreciation of better paints.



No Need to Buy Paint Blindly

If there were no way of knowing good paint materials from bad, except by waiting to see how they may wear, painting would necessarily be the lottery which many people make it.

The paint lottery is not necessary. Pure White Lead and Pure Linseed Oil are the essential elements of good paint. White Lead can be tested absolutely. The commoner adulterants of Linseed Oil can be also detected. See that they are *pure* and *properly put on*, and the paint will stay put.

To test White Lead, a blowpipe is needed. If you intend to paint this season, ask us for a blowpipe, which we will send you free, together with full directions for using it. The test is so simple, that any man, woman or child can make it.

Ask for "Test Equipment 38"

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The Dutch Boy Painter on a keg guarantees not only purity, but *full weight* of White Lead. Our packages are not weighed with the contents; each keg contains the amount of White Lead designated on the outside.



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It's the oil film that is the life of paint. Unless the linseed oil used in paint is good the paint will not be good—it will not wear.

We make all linseed oil used in

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in our own mills, where we are able to use every precaution to safeguard its manufacture. We use the choicest Northwestern No. 1 flaxseed and carefully re-clean it to make sure that no foreign substances, such as rape, cockle, mustard, etc., remain. We use special processes for extracting the oil at a lower temperature than is usually employed, which remove practically all albumen and mucilagenous matter and other substances detrimental to the life of the oil. We also age, filter and clarify our linseed oil before using, which is necessary to produce thoroughly satisfactory oil.

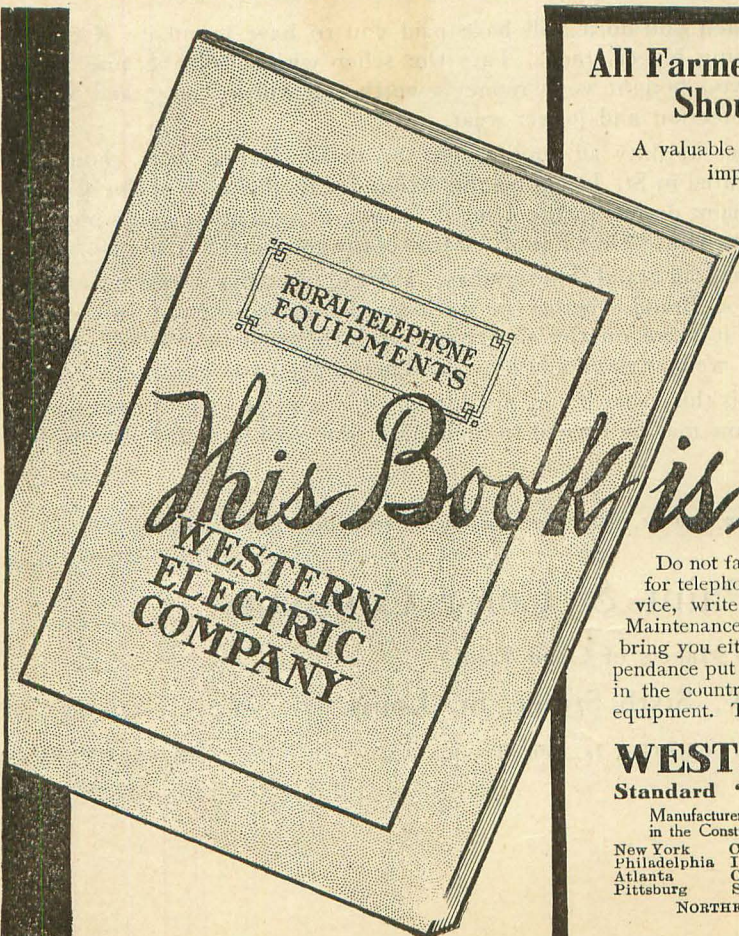
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388



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Use Address Nearest You

IMAGINE, any of you, the following:
An owner of a piece of property who wants to make his house or his barn look better than it does, walks into a store where paint is sold, and brings his good money with him and is willing to pay that money for good paint for a good purpose.

He doesn't know very much about paint; but he has been led to believe that the dealer does. And so he trusts that dealer. He gives him his money, and he gets, let us say, not good paint, or not as good as he bargained for, but instead a paint that is otherwise. He buys "otherwise-paint."

Now who has the worst of this?

Everybody concerned—maker, seller, and user. Besides these there is that helpless and most conspicuous sufferer of all—the house, or the barn, or the roof, or the fence, or the interior, or the buggy, that not only gets it but shows it.

This sort of thing happens every day. It ought not to happen any day. Some day it isn't going to happen any more. Already this business of mutuality of confidence is not only in the air but may be realized in the stores of some honest dealers where the honest paint of an honest maker is sold at an honest price to the man who comes to buy.

The moral idea in business, and what we may term the business idea in what is moral, is here; and it has come to stay.

You can find it even in paint; and when you do it will have paid you to have found it. Good paint pays. Pays the maker who made it by making bigger trade. Pays the seller who sells it because it brings you back to buy again. Pays you because you bought your money's worth of a worthy thing, and pays your house because of better looks and better protection and longer wear.

There is one make of paint that does its duty all four ways: by maker, seller, user, house—the name of it is the Horse Shoe Brand, manufactured in St. Louis by the Mound City Paint & Color Company, and sold to, and bought by, the most reliable paint dealers in the United States. You'll never find a poor dealer or an unreliable tradesman handling Mound City Horse Shoe Brand. Most of the good ones do; not all, but most.

Horse Shoe Paint is the name of a brand; a brand that signifies; a brand that has a real meaning, and value to you. When you see the Horse Shoe Brand whether on paint for the house, or paint for the barn or paint for floors, you can know by the sight of it there on the can that that is the paint that will do, and does, what you want it to do, and does it well; as well as you could hope, and better than you expect.

And so, the main point of the matter is this: that if you are looking for a paint you can trust without going through the usual tragedy of a trial—you may be trusted to remember your own interest by remembering the name and the brand of "the Horse Shoe."

When you get our color card that you send for, you will realize the difference there is in paints.

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